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A Methodology for Evaluating Housing in Use: A Case Study Approach

Stephen T. Margulis

Environmental Design Research Division
Center for Building Technology

June 1981

Sponsored by:
Center for Building Technology
National Engineering Laboratory
National Bureau of Standards
Washington, DC 20234

Office of Policy Development and Research
U.S. Department of Housing and Urban Development
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U.S. DEPARTMENT OF COMMERCE, Malcolm Baldrige, *Secretary*
NATIONAL BUREAU OF STANDARDS, Ernest Ambler, *Director*

ABSTRACT

The National Bureau of Standards (NBS) has prepared a report on the methodology of Project Feedback, the evaluation of Operation Breakthrough housing in use (a post-occupancy housing evaluation). The report introduces housing evaluations and encourages their use by providing both housing questionnaires and a nontechnical, practical discussion of research methods in general and of survey research in particular. To increase the sophistication of housing evaluation research designs, the report includes a tested approach for selecting control group respondents for housing evaluations. In addition, it summarizes results of NBS's housing evaluations, principally to illustrate ways of categorizing (coding) occupants' answers, but also to introduce these studies and their results. The case study approach is meant to encourage readers to build on NBS's experiences. This book is suitable for research and instructional purposes.

KEY WORDS: Dwelling units (residential); housing; Operation Breakthrough; Project Feedback; post-occupancy housing evaluation; questionnaires; research methods; survey research; user needs.

PREFACE

This report is about how to evaluate housing in use with the survey as the principal research method. The case study used is Project Feedback, which was an evaluation of Operation Breakthrough housing in use. An evaluation of housing in use is frequently called a post-occupancy housing evaluation. Project Feedback was conducted by the National Bureau of Standards for the U.S. Department of Housing and Urban Development (HUD). In sharing our experiences with you, we hope to encourage others to improve the quality of housing evaluations.

This report will help you design a questionnaire-based housing survey, but it is not a handbook for housing research. It does, however, contain a field-tested research design and field-tested questionnaires that you can adapt.

Chapter 1 introduces the case study, Project Feedback, and describes its relationship to Operation Breakthrough, the HUD project whose housing is being evaluated. In addition, the four components of research are explained and illustrated. The chapters that follow discuss the components of research within the context of Project Feedback. Chapter 2 describes our research method, the questionnaire-based survey, and discusses in less detail our research technique, the interview. Chapter 3 explains and evaluates our research design, the comparison of experimental and control groups. For those readers who want additional information on the topics presented in chapters 1, 2, and 3, there are suggested readings at the end of each of these chapters.

Chapter 4 focuses on the Core Questionnaire, the principal research instrument used in Project Feedback and the instrument most likely to be useful to other investigators. Because of the potential usefulness of this questionnaire, we have presented a revision of it in chapter 5. Besides incorporating technical improvements, the revision includes changes making it suitable for more general application.

Chapters 6, 7, and 8 present the three other research instruments used in the case study:

1. The Exit Questionnaire--a tool used to evaluate housing impressions of people who had moved or were moving from the housing under study.

2. The Site Visitor Questionnaire--a brief questionnaire for visitors to housing models.

3. The Work Order Form--a form resembling a questionnaire, which we used to record occupant requests for repairs to dwelling units and management comments about the repairs.

As part of the chapter on each research instrument, tabular results are included to help you develop answers for important questionnaire items that do not list likely answers. In addition, because of interest in Project Feedback, a brief summary is included of the study results involving each questionnaire.

You will find this casebook particularly helpful if you are considering conducting a housing evaluation but are not a social or behavioral scientist and have never conducted a questionnaire-based housing survey. If you are a manager about to manage or design a housing evaluation, this report will help you identify important research tasks and questions, and understand their significance. If you are a college instructor, you can use this report as a teaching aid in a course on environmental research. Although the report is primarily addressed to the preceding readers, some sections--especially the discussion of research design--will be of interest to readers knowledgeable about social science methodology. Other sections, such as the discussion of Operation Breakthrough, will interest readers knowledgeable about housing and housing sites.

ACKNOWLEDGMENTS

Many individuals have contributed substantially to this report or to the research project upon which it is based. For their contributions to this report, I especially thank the following individuals and organizations:

- Dr. Edward Arens, Mr. Robert Kapsch, Dr. Francis T. Ventre, and Dr. Robert Wehrli for encouraging and supporting the preparation and completion of this report;
- Office of Policy Development and Research of the U.S. Department of Housing and Urban Development for the initial funding for this report;
- Mrs. Carol Solomon for improving the readability of the report;
- Miss Tracey Kistler for ably assisting with the physical preparation of this report;
- Mr. Richard Ellis for revising the Core Questionnaire and contributing greatly to chapter 2; and
- Colleagues whose helpful comments improved this report.

For their contributions to Project Feedback, I thank the following individuals and groups:

- Dr. Robert Wehrli, NBS supervisor of Project Feedback;
- Dr. Erik Svenson, NBS project leader during the planning phase of Project Feedback;
- Mrs. Susan Benedick, Mr. William Cochran, Mrs. Eleanor Parikh, Dr. Edward Steinfeld, and Prof. Mary Jo Huth--members of the Project Feedback research team;
- Mr. Robert Jones, technical monitor from the Department of Housing and Urban Development;
- Mr. Richard Ellis and Mr. David Koons for preparing the research team for the complexities of survey research;
- Harland Bartholomew and Associates, Dr. Ralph Swisher, Dr. Robert Zehner, and Mr. John Archea for helping the author design and develop the Core Questionnaire;
- Dr. Daniel Carson and his associates for developing and implementing the model for selecting comparison groups and for contributing to chapter 3;
- Westat, Inc. for conducting the field work for the occupant surveys involving the Core Questionnaire;

- Dr. Daniel Carson, Mr. Mark Cooper, Dr. James Filliben, Ms. Mary Grigg, Dr. Tao Ming, and Group Operations, Inc. for aiding with the reduction, analysis, and interpretation of data.

Thanks, too, to the other NBS professional and support staff, the HUD field personnel, and the site management of housing developments who helped make Project Feedback a success.

Dr. Stephen T. Margulis
NBS Project Leader
Project Feedback--Research Phase

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CHAPTER 1: INTRODUCTION

Why do people select one home over another? How satisfied are people with their home, their neighborhood, and the community as a whole? What factors most affect a person's decision to leave one home and find another? These are some of the questions that housing evaluations are designed to answer, questions that need answering if the decisionmakers in the housing field are to make better informed decisions. Housing evaluations are vital because they provide key people with sound technical data about the effects of earlier decisions. Thus, in the long run these studies can improve the quality of housing and the quality of life for occupants.

THE CASE STUDY: AN OVERVIEW

One such housing evaluation is Project Feedback, conducted by the National Bureau of Standards (NBS). The goal of Project Feedback was to evaluate the performance of prototype, industrialized housing produced as part of Operation Breakthrough (OBT). Sponsored by the Department of Housing and Urban Development (HUD) in response to the Housing Act of 1968, OBT was initiated to increase lagging housing production.

Project Feedback

Project Feedback was planned as a comprehensive post-occupancy evaluation of physical, economic, and behavioral aspects of OBT housing. The original goal was to validate the performance criteria that had generated the housing (see pp. 3-4). But the final scope was much more narrow. In the final form, the project studied consumer opinion, emphasizing user acceptance and user satisfaction.

Nevertheless, this focus on occupant attitudes was closely related to the original goal of validating the performance criteria prepared by NBS. Since these criteria were based on user needs [Wright, 1971], the NBS researchers argued as follows. If (1) the criteria adequately addressed user needs, if (2) the OBT housing met the criteria on which it was based, and if (3) the occupants could determine that their needs were being met, then the occupants were likely to be satisfied with their housing.

In the first feedback study, visitors to model units on OBT sites evaluated the model units they had visited. Visitors offer a consumer's, rather than an occupant's, perspective. A succcessful pilot study of visitor attitudes took place in October 1972 at the Sacramento, California, OBT site. The full-scale study ran from February through May 1973. It was not as successful as hoped: only four of eight sites participated and relatively few questionnaires were completed (see chapter 7).

The second study focused on repairs to the dwellings. This study was all that remained of the intended studies of the physical performance of OBT housing in use. Information on repairs was collected through written work orders. During the eight months from April through December 1973, more than 5,000 work orders were completed (see chapter 8).

The third study involved OBT occupants who had told management that they intended to move or who had already moved. From December 1973 until May 1974, 60 eligible households that could be reached by telephone were called and interviewed (see chapter 6).

The fourth and largest study focused on housing satisfaction and acceptance by occupants. This study is one of the largest post-occupancy housing evaluations and is the largest occupant evaluation of industrialized housing. In January and February 1974 nearly 1,500 face-to-face interviews with OBT occupants were completed. At the same time over 500 interviews were conducted with households in matched conventional housing. Chapter 3 contains a description of the method used to select conventional housing as a comparison (control) group and an evaluation of its use (see also chapters 4 and 5).

Operation Breakthrough: Innovations in Housing

Although this case study is not about OBT, a description of OBT housing and housing sites is helpful in understanding the content of the questionnaires and the methodology of Project Feedback. Operation Breakthrough had as its aim a housing program demonstrating ways of meeting the Nation's housing needs. It proposed (1) to develop self-sustaining mechanisms for large-scale housing production through modernization and (2) to create increasingly lower housing prices by reducing outside barriers to large-scale production [U.S. Department of Housing and Urban Development, 1973].

The key to increased production was industrialization: the use of prefabrication and assembly line construction to a greater extent than found in the conventional housing industry. Through a partnership between private industry and HUD, 2,588 dwelling units were to be built.

The built units offered a range of housing types, principal building materials, and basic structural concepts. The housing types included single family detached, single family attached, and multifamily buildings ranging from low rise to high rise. The principal building materials included concrete, metal, wood, polyesters, and composites. And the basic structural concepts included modular units, panel units, and component subassemblies. These structures were, in some cases, combined with "stick built" conventional elements.

Just as some producers of OBT housing used conventional building methods, so too conventional builders used factory built components. However, to simplify the presentation in this book, OBT housing is called "industrialized housing," and all conventional housing is called "conventional housing," regardless of the use of other construction methods.

Because OBT housing was technologically innovative, it could not have been evaluated using then available prescriptive building codes [Finger, 1971]. Not only were these codes limited in the housing issues they addressed, but they also varied considerably by region. By contrast, the performance approach could be used to evaluate innovative housing such as OBT housing. This approach emphasizes how the elements of residential buildings perform (the nature and level of performance) rather than how they are to be built, which is

the approach of prescriptive building codes. Moreover, the performance specifications can be based on user needs. Thus, they can cover the range of issues that housing should meet [Finger, 1971; Wright, 1971].

It was necessary to have the performance criteria for OBT housing cover a range of user needs because many of the suggested OBT innovations had not been previously tested for either marketability or durability, and because the resultant housing had to be safe and had to satisfy the needs of occupants. The performance specifications, prepared by NBS, were published as the "Guide Criteria for the Evaluation of Operation Breakthrough Housing Systems" [Pfrang, 1970]. In this case study they are called "Guide Criteria."

Operation Breakthrough: Innovations in Housing Sites

The OBT housing currently occupies nine prototype sites across the United States in cities representing a variety of climatic and marketing conditions.[1] The cities are Indianapolis, Indiana; Jersey City, New Jersey; Kalamazoo, Michigan; Macon, Georgia; Memphis, Tennessee; Sacramento, California; St. Louis, Missouri; Seattle, Washington--an inner-city location; and King County, Washington--a suburban Seattle location. All of these developments except Jersey City, which was then under construction, were part of Project Feedback.

All the OBT housing developments were built as planned unit developments (PUD's). This planning approach was selected by HUD to overcome past inefficiencies in site development. The PUD's are characterized by separation of pedestrian and vehicular movement, aggregation of open space for communal use, mixed housing types, housing clusters, concentration of parking in specific locations, and responsiveness to the natural site.

To ensure a long-lasting, viable community, each development tried to offer residents four elements. These were adequate management and services, necessary outdoor space and facilities, adequate maintenance, and personal and physical security [Finger, 1971].

POST-OCCUPANCY HOUSING EVALUATION AND THE COMPONENTS OF RESEARCH

Project Feedback, as a research project, is an example of a post-occupancy housing evaluation. This type of evaluation judges built, occupied housing. "Evaluation" implies judging something against one or more criteria or standards. The "something" that is being evaluated often refers to an aspect of occupant experience. However, the "something" can include the physical performance of housing systems, subsystems, and components. The criteria or

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[1] In this report the term "site" and "development" are used interchangeably to refer to all the physical features of the residential environment except the housing and to the social features, particularly the occupants and management. Traditionally, however, "site" refers to the land, and "development" refers to all the physical aspects of the completed housing project.

standards for the evaluation can be other housing, people's judgments, local building codes and ordinances, the architect's goals for the housing, or some ideal or desired system.

The post-occupancy evaluation of OBT housing, focused on prototype, industrialized housing at eight sites across the continental United States. The research involved on over 1,800 occupied units. The "something" being evaluated was occupant satisfaction with and acceptance of OBT housing. It was a reasonable focus because prior research [Bernhardt, 1972] and expert opinion had reported consumer dissatisfaction with industrialized housing. The criterion or standard for gaging occupant opinion about OBT housing was the satisfaction of residents of conventional housing with their housing.

There are four research components in post-occupancy housing evaluations: research instruments, research techniques, research methods, and research designs.

Research Instruments

Research instruments are used by the researcher to record the necessary observations. When research is directed at a testable question (the hypothesis), the observations are the basis for answering the question (testing the hypothesis). Examples of research instruments include questionnaires (records of what people say), cameras, stop watches, counters, and apparatus used to measure the physical performance of housing components. In Project Feedback the principal research instrument was the questionnaire.

Research Techniques

Research techniques establish the conditions of observation; techniques focus on how the observations are made in contrast to what is recorded, which is the role of the research instrument. Examples of techniques include interviews, participant observation (often the observation of what others say or do), photography, and nondestructive testing of materials. In Project Feedback the principal technique was the face-to-face interview. However, it was not the only technique; also employed were questionnaires administered by telephone and self-administered questionnaires.

Research Methods

Research methods determine the degree and type of control the researcher has over what or who is being observed. Examples of methods include the laboratory experiment and the simulation, in which control over what or who is being observed is relatively high, and field studies and surveys, in which there is relatively less control over events or individuals. In Project Feedback the method used was the survey.

Research Designs

Research designs establish the rules for grouping who or what is being

observed, and as a consequence, for grouping what is being recorded. These rules determine how observations are related, hence how the results are interpreted. A good experiment establishes whether there is a relationship between the events being studied, what that relationship is, and how the relationship can be reasonably explained.

The relationship that experiments frequently attempt to establish is whether one variable, A, has had an effect on another variable, B. Specifically, if a researcher hypothesizes that A affects B in some way, then the purpose of the research design is to determine whether under specified conditions A does in fact affect B in the predicted ways. The names given to variable A include "antecedent variable," "independent variable," and "treatment variable." Variable B has been called the "effect", the "outcome", or a "dependent variable."

A typical research design for establishing the effect of variable A on variable B is the design in which variable A is applied to one grouping of who or what is being studied, such as people or housing, but not to another. The treated group is called an "experimental group." The untreated group is called a "control group." Having a control group allows the investigator to determine whether variable A caused an effect on variable B, and if there has been an effect, its direction and magnitude.

Project Feedback, in its survey of occupant satisfaction and acceptance, studied two types of housing: industrialized housing and conventional housing. These two types were compared to determine the effects of industrialized construction (the A or independent variable) on occupants' satisfaction with and acceptance of their housing (the B or dependent variable). The groups with industrialized housing represented the presence of variable A. The untreated or control groups were comprised of conventional housing.

The principles of research designs for laboratory experiments have been increasingly applied to settings in which the conditions necessary for a laboratory-like experiment (often called a true experiment) are not met. The study of OBT housing presented just such a setting. Unlike the laboratory experiment in which variable A is the only difference between experimental and control groups, in Project Feedback differences in industrialized construction processes were not the only distinction between industrialized and conventional housing. There were additional distinctions between the two housing groups. These additional distinctions, in principle, can have effects that are incorrectly attributed to industrialized construction processes, the A variable under study. Consequently, investigators must consider how these additional distinctions may affect the result and, in turn, what the proper interpretation of the results is. In other words, does the A variable explain the results, or do the other differences?

Housing evaluation studies, in general, do not allow the researcher to control all of the differences between the groups that are being compared. This is because the methods often used for research in natural (nonlaboratory, uncontrived, intact) settings--such as field studies and surveys--do not offer the investigator full control over who or what is being observed. One approach to

dealing with problems arising from field research methods, such as surveys, is to improve the study's research design. This approach requires adapting research design principles used for laboratory experiments to nonlaboratory settings [Cook & Campbell, 1976].

To this end, in Project Feedback, differences which could affect the results were controlled by systematically matching OBT and conventional housing, their occupants, and their sites. Physical, economic, and social factors were used as matching variables. Eight pairs of experimental-control (OBT-conventional) housing groups were created, each of which was relatively homogeneous on the matching variables. Because the matching variables had to reflect the OBT housing, occupants, and sites, the eight pairs collectively were heterogeneous on the matching variables. For example, different matched pairs were either predominantly elderly/retired persons, families with working heads of households, students in professional school, or inner-city residents. Some pairs occupied townhouse units; others occupied garden apartments (multifamily low rise units) or apartments in high rise housing.

The major reason for selecting this research design was to test or isolate the effect of the industrialized construction, as represented by OBT, on attitudes toward the resulting housing. There were two other reasons. First, this research design allowed the investigators, in principle, to separate the effects on occupants' opinions of OBT features that were unique to it from OBT features shared with conventional housing. Second, conventional housing provided a familiar frame of reference against which to judge prototype, industrialized housing.

It is important to note that compared with other post-occupancy housing evaluations, the instruments, techniques, and methods of Project Feedback are typical. The research design is not, but it should be. NBS investigators hope that the professional researcher will build upon Project Feedback's improved research design. Using sophisticated research designs can increase the researcher's understanding of events and of phenomena.

SUGGESTED READINGS

Project Feedback

U.S. Department of Housing and Urban Development. Feedback, volume 1: design and development of housing systems for Operation Breakthrough (HUD-RT-28). Washington, D.C.: U.S. Government Printing Office, 1973. Provides a full description of the objectives, organization, and history of Operation Breakthrough, along with detailed descriptions of the housing systems, their construction methods, and materials.

U.S. Department of Housing and Urban Development. Feedback, volume 2: a compendium of building concepts (HUD-PDR-28-1). Washington, D.C.: U.S. Government Printing Office, 1974. Describes housing system innovations.

U.S. Department of Housing and Urban Development. Feedback, volume 4: phase II prototype construction and development (HUD-PDR-118). Washington, D.C.: U.S. Government Printing Office, 1975. Describes the nine OBT sites and how the Department of Housing and Urban Development selected them for their housing demonstration project.

Research Instruments and Techniques

The following references provide additional examples of research instruments and techniques.

Michelson, W. M. (Ed.). Behavioral research methods in environmental design. Stroudsburg, Pa.: Dowden, Hutchinson & Ross, 1975. This book is relatively technical.

Zeisel, J. Inquiry by design: tools for environment-behavior research. Monterey, Calif.: Brooks/Cole, 1981. This book is accessible to the informed nonprofessional.

Research Methods

The following references are listed in order of increasing difficulty for the nonprofessional. These books all provide detailed descriptions of social science research methods.

Selltiz, C., Wrightsman, L. S., & Cook, S. W. Research methods in social relations (3rd ed.). New York: Holt, Rinehart & Winston, 1959.

Festinger, L., & Katz, D. (Eds.). Research methods in the behavioral sciences. New York: Dryden Press, 1953.

Lindzey, G., & Aronson, E. (Eds.). The handbook of social psychology (Rev. ed.) Vol. 2. Reading, Mass.: Addison-Wesley, 1968.

Research Designs

The following books provide clear introductions to the difficult topic of research designs for the laboratory experiment.

Cox, D. R. Planning of experiments. New York: Wiley, 1958.

Kerlinger, F. N. Foundations of behavioral research (2nd ed.). New York: Holt, Rinehart & Winston, 1973.

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CHAPTER 2: AN INTRODUCTION TO SURVEYS AND QUESTIONNAIRES

PURPOSE

This chapter introduces the survey as a method and the questionnaire as an instrument. It also explains terms and ideas that are used and illustrated in later chapters, but it is not a "how-to" manual for doing surveys or developing questionnaires. In fact, an apprenticeship is the best way to learn those skills. If an apprenticeship is impractical, the beginner should seek experienced counsel. The graduate faculty of a local university's sociology or political science department should be able to provide a referral. Thus, the limited goal of this chapter is to aid beginners in planning a survey or a questionnaire and to prepare them to discuss their ideas with experts.

WHAT IS A SURVEY?

Survey research is a familiar part of American life. Political polls, public opinion polls, Government surveys (such as the decennial census), and commercial surveys are common examples. They are common because the survey is being used by many Government agencies and businesses that are becoming increasingly information-based in their decisions [Ware & Parsons, 1976]. Surveys are effective because individuals are likely to accept the opportunity to state their opinions, ideas, and aspirations, particularly if they feel that effective action or improved decisions will result [Weiss & Hatry, 1971]. Thus, survey results can be used to form or to evaluate policies and decisions.

Surveys take various forms. It is easier to describe the components of a survey than to develop a good definition because a definition broad enough to include all of the variations of this "infinitely flexible" method would be too general to be of value [Sheatsley, 1974].

To describe surveys, this chapter focuses on the social survey because the major Project Feedback studies are based on social surveys. A social survey involves the systematic and standardized collection of information using instruments such as questionnaires and techniques such as face-to-face interviews. Social survey techniques involve direct contact between the researcher and the individuals being interviewed, who are called respondents or interviewees. Typically, those selected to be interviewed form an aggregation called a sample. The sample is a representative group drawn from a much larger group in whom researchers are interested. The larger group is called a population [Marans, 1975; Sheatsley, 1974]. Although this chapter emphasizes the social survey, as illustrated in chapters 4 and 6, it also includes material relevant to the other Project Feedback studies reported in chapters 7 and 8.

Social surveys have four basic characteristics [Selltiz, Jahoda, Deutsch, & Cook, 1959]:

1. The surveys presuppose initial knowledge of the problem under study (e.g., about housing, about attitudes, and about their relationships).

2. The researchers must clearly define what they plan to study and measure and must find technically adequate means in the form of instruments and techniques for making these measurements.

3. The researchers must be able to specify who is measured (the group under study). This introduces sampling: rules for choosing a small group, called a probability sample, from a larger population so that results for the sample can be generalized to the population, within chosen statistical limits.

4. There must be careful planning in order to get complete, accurate information from the sample (the "who") about the topics under study (the "what"). Because surveys generally involve a lot of work, planning involves a careful balancing of technical requirements and available resources.

The face-to-face interview using a questionnaire is not a necessary feature of surveys although it clearly is a common one. For example, questionnaires may be mailed or handed to respondents and then self-administered (see chapter 7), or techniques such as direct observation, physical measurement, or analysis of existing records may be employed. All of these techniques have been employed in housing studies.

ADVANTAGES AND LIMITATIONS OF SURVEYS

Not all inquiries are suited to questionnaire-based surveys. Even if an inquiry is suitable, there may be reasons for rejecting the survey as the research method. What, then, are the appropriate uses and advantages of surveys, and what are the limitations and disadvantages of questionnaire-based surveys? The following answer draws on Davis (1975) and Marans (1975).

Advantages and Appropriate Uses of Surveys

1. Surveys can be used for

    a. Description--the U.S. decennial census describes selected characteristics of the U.S. population;

    b. Prediction--for example, of sales or voting behavior;

    c. Estimation--for example, Hall and Slovic (1976) tell how to estimate the incidence of lead paint in housing; and

    d. Tests of differences between groups and the measurement of associations among variables (see chapters 3 and 4, respectively).

2. Surveys and questionnaires are excellent for complex systems: systems characterized by large numbers of interrelated factors. The residential

environment is a complex system in which such factors as the site, management, neighbors, and housing affect occupants' impressions of their dwellings.

3. A questionnaire-based survey can provide information about who, how, when, where, and why as long as the topics are concrete, are salient to the respondent, and do not require the respondent to have an unusual amount of information or skill to answer the questions. Moreover, the information provided by housing surveys about features of the residential environment that can be changed can be used to guide actual changes of these features.

4. Surveys are ideal for measuring opinions on a given topic at different points in time.

5. In a survey the selection of a sample should be based on an explicit, systematic procedure. Furthermore, all selected respondents must have their full say. That is, the interviewer must ask each respondent all the questions intended for him or her. It is important that comparable respondents' answers must receive equal weight in the statistical analysis of results. Finally, if there are doubts about the results, researchers can repeat the study to check the results.

Limitations of Surveys

The survey, like any research method, has its limits. The researcher should recognize these limits.

1. Surveys are of limited use in directly observing, measuring or analyzing events or phenomena as they are happening.

2. Surveys become less useful when the questions become too complex for the respondent or if answers require high degrees of precision. That is, to the extent that the investigator taxes the memory or observational skills of respondents, the information obtained becomes less credible.

3. Surveys are not useful if there is a strong probability that attitudes or expectations toward a particular issue are not fully formed by the respondent.

4. Surveys are of limited use for obtaining information about behaviors that involve a sequence of finite activities (e.g., the activities of a housewife as she prepares a meal). They also have limited use in studying events that operate outside of people's awareness, or that are not usually put into words.

5. Surveys may be of limited use when studying illegal or illegitimate activities (such as personal acts of vandalism), in part, because of respondents' concerns about confidentiality and about the personal impression created by their answers.

6. Surveys are not useful if the researcher cannot specify or locate respondents. For example, the researcher may be unable to locate for reinterviewing a family that has moved and left no forwarding address.

7. Surveys are expensive. Sometimes they are too expensive because (a) the problem under investigation was not sufficiently narrowed; (b) the questionnaire was not limited to the smallest number of really important items; (c) the sample was too large, given the intended use of the results [Davis, 1975, p. 41]; or (d) the researcher did not select the least expensive survey type from among adequate types of surveys.

8. Researchers should not use the interview if information can be obtained less expensively and as accurately elsewhere. This rule is especially applicable to factual information and to information that should not vary within a group under study (e.g., information about actual amenities and services available at a specific housing development).

THE COMPONENTS OF A SURVEY

There are many descriptions of the components of the social survey. These components are also called stages, tasks, or activities. On close analysis, these descriptions are variations on a theme. The variant chosen for this case study is shown in figure 1. Because it is a detailed classification, the components have been grouped to aid the reader. Furthermore, figure 1 is only an approximation. It makes components appear discrete that merge and overlap in practice; it imposes a fixed order on tasks when, in fact, the order can vary; it depicts tasks as only moving forward when, at times, some "earlier" and "later" tasks influence each other. The theme then of which figure 1 is a variation is that a social survey requires the researcher to perform each task in figure 1, in one way or another. Other kinds of surveys, using other techniques and instruments, could require a modification of figure 1.

This chapter draws on personal experience and published sources.[1] Topics that readers with survey research experience need to know are emphasized. Additional sources of information are described in the section on suggested readings.

For each major component, basic features and constituent tasks are introduced. The principal constituent tasks are discussed. Advice and warnings are included. Bracketed numbers refer to major components and constituent tasks in figure 1.

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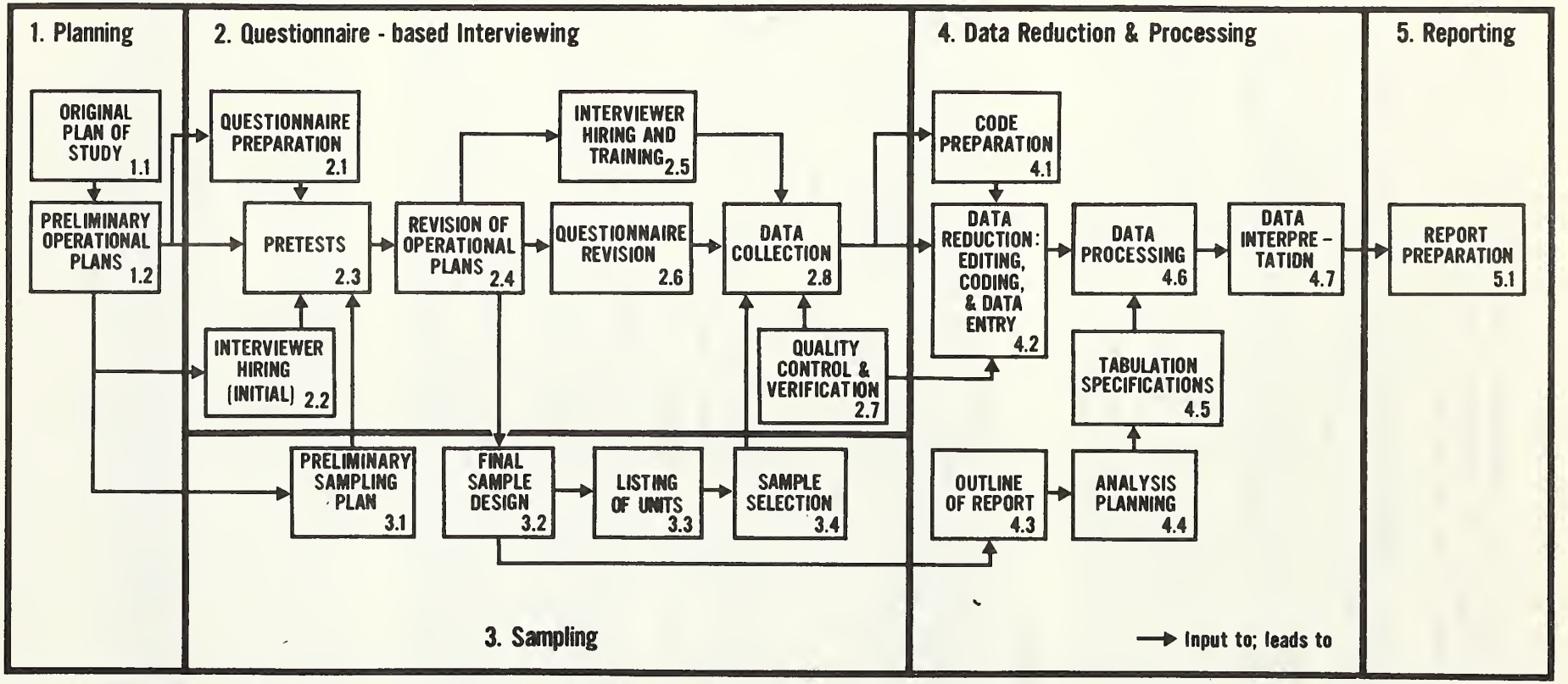
[1] Cornog (1981), Selltiz, Jahoda, Deutsch, and Cook (1959), and the U.S. Bureau of the Census (1965) were more influential and helpful than is indicated by their frequency of citation in the text.



* Adapted from "Schematic Drawing I," from a workshop on survey methods, presented by the Survey Research Laboratory, University of Illinois, Urbana-Champaign Campus, 1971.

Figure 1. The components of a survey.

PLANNING

The first stage of a survey is overall planning [1]. This lays the groundwork for all subsequent tasks. The two principal constituent tasks of stage one are original planning [1.1], which is largely conceptual, and preliminary operational plans [1.2], which translate the original plans into tasks that will get the work done. The importance of this stage must not be underestimated. It must be done thoroughly and carefully.

As part of the original planning the researcher will have to complete the following tasks:

1. Draft and analyze objectives;

2. Determine what information has to be collected. The researcher should review available information to determine whether it would meet the objectives of the survey. If it does, the survey is unnecessary.

3. Set the scope of the survey, which includes specifying what can be done with the given resources and estimating the size of the sample needed for reliable statistical results, given the intended use of the results.

4. Decide upon the research technique (see pp. 21-22 on types of interviewing) and the survey design (see p. 25).

5. Consider and obtain criteria against which to assess the plausibility of the survey results.

6. Establish a timetable for later tasks.

7. Make initial decisions about budgetary matters, including the allocations for various survey functions (e.g., pay scales, travel allowances).

Original planning begins to be transformed into action through the formulation of the preliminary operational plans. As part of operational planning the researcher will have to complete the following tasks:

1. Select the survey director and staff (assistants, clerical help, processing staff).

2. Obtain adequate office space, storage space, and equipment.

3. Arrange for the materials and personnel needed for the field work [2.1-2.8], for sampling [3.1-3.4], for handling returning data [4.1-4.7], and for administering, supervising, and coordinating all of the tasks. To assign jobs, the project head should match task requirements with the staff members' skills. Sharing instructions helps encourage teamwork and helps workers understand and correctly perform their tasks. This is vital for unless each task is correctly performed, the survey will fail.

Several of the elements of original planning have been selected for additional comment because they are important or because they may be unfamiliar to many beginners.

Drafting and Analyzing Objectives

Planning begins with the question that brought about the survey and that the survey intends to answer. This question is called the objective of the survey. Sound research requires full understanding and precise formulation of the objective. Therefore, it is necessary to refine the objective by systematically reducing it to specific, testable concepts and their relations.

The analysis of a primary objective, such as how occupants feel about their housing, can lead to secondary objectives (e.g., Have attitudes toward housing changed over time? Do attitudes toward management or toward the site affect attitudes toward housing?). Furthermore, objectives must be translated into concepts. The researcher must consider the nature of these concepts (e.g., Is management responsible for setting and enforcing rules? For maintenance and repair? For providing services?). He or she must also consider the relationships among concepts. For example, the concept of "physical security," which affects how people feel about their housing, relates obvious security factors, such as physical security systems and presence of police patrols or guards, to other security factors that have additional nonsecurity-related implications. The other factors include lighting on site and near buildings (safety implications), landscaping (aesthetic and recreational implications), orientation and location of buildings (implications for noise and climatic conditions in buildings), rules for screening occupants (implications for maintenance of the site and buildings), and the nature of the community around the development (implications for access to community services and transportation). Thus, a complete statement and analysis of objectives should generate a range of specific topics, not merely a single question to study. In short, it should specify all of the information the researchers need to obtain.

Identifying Criteria for the Assessment of Survey Results

The concern here is with information, developed as part of the survey or available from other sources, that can help establish the plausibility of the results. For example, there may be objective measures (e.g., written records, physical measurements) against which the researchers can compare occupants' attitudes and statements. This example is discussed, as validation, on p. 23 and in a thorough, excellent but technical article by Campbell and Fiske (1959).

In addition, there may be comparable research with which the researcher can compare all or part of the results. To the extent that different measures and different studies agree, the researcher's confidence in his or her results will increase.

Budgetary Decisions

Social surveys are expensive. The cost can be over $100,000 for a high quality social survey covering all the components in figure 1 and involving 1,500 adult Americans (which is the size of a National sample) in 1-hour, face-to-face interviews. And the cost is rising.

The price depends, for example, on which research technique is employed. Weiss and Hatry (1971) have made cost comparisons of three research techniques applicable to questionnaire-based surveys: personal (face-to-face) interviews, telephone interviews, and mail surveys requiring self-administration of questionnaires by respondents (see p. 22). Personal interviewing tends to be the most expensive technique and mail surveys the least expensive. The price of quality--of knowing what to do and of doing it properly--is hard to estimate. But the value of quality is clear. According to James A. Davis, Director of the National Opinion Research Center, a major American survey research organization, "If you are going to buy a survey, buy a good one since a lousy one will still be expensive" [Davis, 1975, p. 44]. And it could be of little real value, he might have added.

Because surveys are expensive, researchers must balance financial resources against tasks requiring great effort and stringent controls to ensure precise, unbiased results. This is why planning is so important. For example, researchers must decide how much precision is really needed in the results (see p. 25). Davis (1975) offers an example in which a niggling increase in statistical precision, obtained by doubling the number of respondents from 500 to 1,000, could unnecessarily increase costs by $10,000. Unless one can justify the added statistical precision, it is not worth the price.

Conversely, Davis (1975) and others feel that too little money (hence time and effort) has gone into questionnaire development. The result can be research instruments that are not fully ready for use (see p. 21 on pretesting). In short, money must be allocated so that the value of the results is greater than the cost of the study.

Protecting the Privacy of Respondents

Social surveys can threaten the privacy of respondents. Therefore protecting their privacy must be an integral part of the survey planning. Individuals who are asked to state their frank opinions open themselves to threats such as embarrassment and retaliation. The threats are even greater if the questionnaire includes inquiries on sensitive topics such as questionable, illegal, or intimate activities. For these reasons researchers are obligated to protect their respondents' personal privacy at each stage of the survey. The problems of protecting personal privacy in surveys and other types of social research, and recommendations for their solution, are discussed by Kelman (1977). The following suggestions are drawn from that source.

1. During the construction of the questionnaire [2.1, 2.6], researchers should carefully consider whether sensitive information is essential to the study. If not, they should exclude sensitive items. Investigators

should also consider the need for less sensitive personal information, such as income, education, and age. Items requesting such information are common in housing questionnaires.[2]

2. When first establishing contact with potential respondents [2.8], interviewers should tell the respondents the purpose of the survey and who is sponsoring and conducting it. In addition, interviewers should identify themselves. A letter of introduction from the sponsor may be helpful. As important, the respondents should be provided with complete and truthful information about how their answers will be used, who will have access to them, and in what form and under what circumstances answers will be available (see point 4). This information allows people to determine the personal risks the survey poses and, therefore, whether or not to participate. This procedure is called informed consent.

3. During the interview [2.8], respondents should feel free to refuse to answer any question that goes beyond what they are willing to share with the interviewer. The interviewer can note this refusal. In short, a willingness to participate is not an agreement to answer all questions during an interview.

4. If access to the completed questionnaire, during data reduction and processing [4] or subsequent storage, would threaten the privacy of the respondent, then it may be necessary to remove personally identifying information from the questionnaires and to use code numbers instead to identify them. As important, information that could identify specific respondents and link them to their answers should not appear in reports [5] or during presentations of the results unless the respondents have knowingly and fully agreed to this.

QUESTIONNAIRE-BASED DATA COLLECTION

Based on initial planning [1 in figure 1], decisions about "who" are translated into actual respondents through a sampling plan [3]. Decisions about "what" are translated into questionnaire items [2.1]. The data collection phase [2] brings together the questionnaire and the respondent in order to collect information addressing the survey's objectives.

The cluster of tasks designated [2.1] through [2.8] focuses on questionnaire development and use. Collectively, the purpose of these tasks is to obtain sound answers to the guiding questions (objectives) by asking the correct questions and minimizing biases and errors in the questionnaire and its administration that could undermine the credibility of respondents' answers.

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[2] To protect the confidentiality of answers and to make sensitive and personal items more acceptable to respondents, researchers should use special procedures for stating and asking these questions, and for recording their answers. For some examples, see Fidler and Kleinknecht (1977) and "Comments on the Revised Core Questionnaire Items," question 23, on p. 157.

The Questionnaire

The questionnaire, a research instrument, is a form devised for collecting information from respondents, the sources of information. Questionnaires create a specialized type of social interaction, one initiated for a specific purpose and focused on specific topics, with the result that all extraneous topics are eliminated [Juster, 1975]. There are many kinds of questionnaires ranging from simple examples such as a ballot, to complex examples such as the revised Core Questionnaire in chapter 5.

Questionnaire Preparation

To produce a questionnaire, researchers develop an initial draft [2.1], pretest it [2.3], and based on the pretests, revise it [2.6]. At a general level, a questionnaire must be consistent with (a) the objectives of the survey, (b) the chosen research technique (e.g., face-to-face interviews, telephone interviews, respondent self-administration), and (c) the plans for converting completed questionnaires into statistical summaries. This conversion includes data reduction [4.2] and data processing [4.6]. For example, will respondents choose from among prescribed response alternatives or will the respondents' own words be recorded as the answer and later coded as part of data reduction? Will data processing require the use of computers to analyze respondents' answers? If so, is the format of the questionnaire consistent with the requirements of the selected computer programs for statistical analysis?

There are three aspects of a questionnaire: the questions, provisions for answers, and the script.

With regard to the first aspect, some--but not all--questions must be prepared from scratch. (See p. 32 for a general source of information on questionnaire preparation.) However, for many questions researchers can rely on well-standardized approaches, including

1. Items currently used by survey researchers to obtain basic personal data (e.g., the respondent's age, education, and occupation) or physical characteristics (e.g., health, sensory capacities, disabilities); and

2. Established psychological tests, based on principles of scale construction, that can be used to measure basic traits, attitudes, or aspirations of respondents. (See pp. 32 and 33 for sources of information.)

Researchers should also consider specific items from other questionnaires if they precisely meet the study's informational needs. An advantage of using existing items and tests is that direct comparisons can be made of the results of different studies using these items and tests.

What provisions can be made for the second aspect of a questionnaire, respondents' answers? In general, there are three levels of coding complexity from which to choose. The first level is precoding or fully closed coding of answers. With precoding, the answer is recorded by circling numbers

designating particular, preestablished responses. The second level involves closed coding of an initial response but an open-ended response to a followup question. An open-ended item requires the interviewer to take down a respondent's reply verbatim. The third level of complexity is the fully open-ended question. In the Core Questionnaire (pp. 63-111), items 79-84 are examples of the first level of coding complexity; items 74-78 are all part of a complex example of the second level; and items 51, 145, and 167 each are examples of the third level.

The entire point of providing predesignated answers is to make maximally efficient use of resources and the respondent's time. Thus, if responses can be anticipated, they should be precoded. When, then, should a researcher include open-ended questionnaire items? An open-ended item increases the number of steps between asking the question and statistically analyzing the answer, consequently increasing both the cost of the research and the possibility of an error. Therefore, researchers should not prepare open-ended items unless these items are significant and the researchers are uncertain, even after pretesting, what answers it will produce. Numerical codes can be prepared for [4.1] and applied to [4.2] the respondents' verbatim answers later in the study.

Respondents do not necessarily answer all the questions in a questionnaire. Obviously a question about school-aged children living at home would not be answered if the respondent had no school-aged children. It is common to code inapplicable items as "not applicable" (N/A). If a prior answer indicates that an item is inapplicable, the interviewer should skip it. An item might be applicable yet a respondent might not be able to answer it. For example, a respondent might not be able to name the manager of his or her apartment complex or the amount paid the previous month for fuel. A common code for items that should be but are not answered is "don't know" (DK).

The third aspect of a questionnaire is the script. The script is all the written material addressed to the respondent, including questions, instructions, and comments. The script of a questionnaire prepared for personal or telephone interviewing should be followed explicitly throughout the interview. Its consistent use helps minimize variations from one interviewer to the next, variations which have been demonstrated to influence the answers of respondents. This bias should be avoided. Survey researchers are still learning to write good scripts, especially probes [Institute for Social Research, 1977]. A probe is an instruction, inserted in a questionnaire, that tells the interviewers to ask a question such as "Could you tell me more about that?" or "Where was it that you had this problem?" Good probes will get the respondent to consider every aspect of a question and give a complete answer without at the same time influencing the answer. In general, it is better to have interviewers follow an awkwardly worded script than to have them depart from the script without guidance or mutual agreement. However, this script is not meant to replace conversational conventions and social courtesies, such as personal introductions at the start of interviews, and goodbye's and thank-you's at the close of interviews.

In addition, the script intended for the respondent and the questionnaire instructions for the interviewer should be complete. This reduces complications, improves the quality of the work, and reduces costs of conducting studies.

Pretesting

After an initial draft is prepared, the questionnaire should be carefully examined by the questionnaire's author, by colleagues familiar with the survey's objectives (including those with a different approach to questionnaire construction than the author), and by subject matter specialists for topics in the questionnaire. Based on the comments received, the draft is revised accordingly. When the draft is satisfactory, it is ready for pretesting [2.3]. Pretesting, which precedes actual data collection, involves trained interviewers administering the draft questionnaire face-to-face to individuals similar to the proposed respondents. The purpose is to assess how well the questionnaire works [Selltiz et al., 1959]. Pretests focus principally on adequacy of items, provisions for answers, the script, and their organization and flow. Other focuses are ease of administration, interviewer performance, and suitability of the questionnaire for the type of survey (e.g., for face-to-face vs. telephone interviews). Pretesting for suitability of a questionnaire for telephone use or for self-administration generally follows face-to-face pretests of items and answers [Selltiz et al., 1959].

Sequential pretesting (pretest-revision-pretest until the desired product is reached) is the best practice although it is expensive [Davis, 1975]. When a survey's budget and work schedule are limited, both the number of interviews per pretest and the number of pretest-revision-pretest sequences are often kept low. This may be the major reason why questionnaire items often are not "right" (i.e., the researcher does not really know what each and every item means to the respondents). As a consequence, there can be problems with interpretations of answers to these items [4.7] [Davis, 1975].

Following the final pretest, the questionnaire is put into final form [2.6]. The final version is carefully reviewed to make sure wording, item orders, spelling, script, data reduction instructions, and other details are in proper order. The questionnaire now is ready for printing. Concurrently, instructions for training supervisors and interviewers for data collection are prepared. This instructional material should reinforce the questionnaire's instructions to the interviewer, fully explain the purpose of the study, and specify interviewer performance.

Interviewing

Questionnaires are either administered face-to-face or by telephone, or are given to respondents for self-administration. The choice of technique depends on a number of factors, including the length and complexity of the questionnaire, your resources and personnel, and the size of the sample. The following guidelines for choosing among techniques (types of surveys) are expanded from a summary by Cornog (1981).

1. The face-to-face interview, the most expensive kind, gets the most and best information, and is especially suitable with complex topics or topics where the respondent cannot be regarded as an expert. If investigators are surveying a small community, it is the best technique to use.

2. The telephone interview is the fastest way to collect data and gets almost as much information as the face-to-face interview, but it is not well suited for subtle items or precoded items with many response alternatives.[3] Telephone interviews, like face-to-face interviews, tend to have high response rates (i.e., interviews are completed with respondents in a large proportion of the sample). This type of interview is less costly than the face-to-face interview. It is suited for small communities and large metropolitan areas, and is especially suitable if security and convenience for respondents or interviewers are desirable. Of course, it is necessary for the proposed respondent to have a telephone.

3. The mail survey with a self-administered questionnaire is the least expensive approach to data collection. The mail survey is useful when there are very large numbers of respondents or when respondents are well-educated or are known to be interested in the topic under study. Getting mail survey questionnaires completed and returned is a major problem. On the other hand, self-administered questionnaires, by using each respondent as his/her own interviewer, avoid interviewer effects.

A questionnaire designed for one technique may not be suited for another technique unless it is modified. For example, interviewer's instructions would be rewritten as the respondent's instructions for a self-administered questionnaire. If a questionnaire is modified, additional pretesting is in order.

If the size of the sample or the timetable for data collection requires investigators to use more than one interviewer, procedures are needed to avoid interviewer effects. Interviewer effects are operating when the accuracy or completeness of respondents' answers are influenced by differences in or inadequacies of interviewer performance. Procedures to reduce interviewer effects take two forms: rigorous training and close supervision of interviewers. Supervision of early interviews should be especially close so that problems are caught early and remedial action can be taken (e.g., retraining or firing the interviewer).

Data Collection

Data collection [2.8] refers to the actual field work with respondents and the support functions that oversee and monitor the interviewing, including quality control and verification [2.7]. According to Cornog (1981), the following items are considerations in data collection for a questionnaire-based social survey involving face-to-face interviews.

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[3] This paragraph also draws on Tuchfarber and Klecka (1967) and Institute for Social Research (1978).

1. Prepare the community by notifying community leaders and the media, issue identity cards to interviewers, and send introductory letters to respondents. If face-to-face rather than telephone interviews are planned but the safety and security of interviewers or respondents is a concern, inform the police about the survey.

2. Develop guidelines for determining how many interviewers you might need. Then recruit, hire, and train field supervisors and interviewers. Be prepared to replace incompetent interviewers.

The main office oversees the field staff. It produces the documents and forms; keeps the logs and records; assigns work; makes sure schedules are maintained; and distributes, collects, and controls the flow of forms and questionnaires. Given the mass of paper (questionnaires, forms, etc.) that surveys create, it is essential to have careful planning and control over who has what, and who is or should be doing what. This advice applies not only to data collection but also to data reduction [4.2].

The field supervisor, an important member of the field staff, makes sure that interviewers' assignments are carried out properly, completely, and on schedule. The supervisor also checks interviewer performance by reviewing (editing) completed questionnaires, by being present at interviews, and by verifying interviews. In some cases, field supervisors recruit, hire, and help train interviewers.

Verification [2.7] refers to checking with respondents to make sure an interview in fact took place, that it was completed, and that the answers given were the ones that were recorded. To put it bluntly, verification is a check on interviewer honesty and diligence.

Akin to verification, which checks on the interviewers, is validation, which checks on the respondent. Validation or validity checks are independent measures used to check on the accuracy of responses. They are best suited for factual answers capable of independent confirmation. Discrepancies between respondent's answers and validity check information indicate either that items are too demanding, too technical, or unclear, or that respondents are misrepresenting events or have a poor memory for the events in question. Sources of independent confirmation include written records (e.g., management or government archives), direct observation (e.g., of site features, amenities, services), and direct measurement (e.g., of the physical performance of housing subsystems). It can be argued that unless there is a good reason to ask respondents for factual information, it might be better to obtain this information using independent measures alone, especially if these independent sources are sufficiently accurate for the researcher's needs and the cost of the independent measures is acceptable.

SAMPLING

Who will be the respondents and provide the information? This question must be answered for each survey. In one situation it may be simplest to administer a questionnaire to every household in a development. In this situation,

sampling is not an issue. In another case, there may be no point in talking to 2,000 people if talking to 500 of them would accomplish the objective. In this case, the 500 people are a sample from the population of 2,000. Drawing a proper sample is a technical matter. If a survey will involve a simple example of sampling, practical guides such as Cornog (1981) and Hall and Slovic (1976) may be sufficient. However, most surveys do not involve the simplest cases. Often highly technical advice is required [e.g., Kish, 1965]. In these cases, sampling should be left to professionals.

Because sampling is technical, the objective of this section is limited to introducing some of the concepts that apply to sampling.

Preliminary Sampling Plan

The preliminary sampling plan [3.1 in figure 1] performs the following functions.

1. It defines the population (the totality of units to which the survey results apply) [Marans, 1975]. The units can be individuals, households, dwelling units, buildings, city blocks, and so on.

2. The plan determines whether it is feasible to study the entire population. If the answer is "no," which is likely unless a population is quite small, the researchers will have to sample (choose an appropriate fraction from the population to represent the population). Choosing a representative sample assumes that an objective of the survey is to make inferences about the population based on the sample.

3. It also establishes how precisely the results from the sample should correspond to what would have been obtained from the population. Put differently, statistical precision refers to how closely a population value can be estimated, based on results from a probability sample. If researchers can estimate it closely (e.g., within ± 1 percent), there is greater statistical precision than if they estimate it less closely (e.g., ± 10 percent). The level of statistical precision is based on the uses to which the results will be put and other factors. Marans (1975, pp. 132-133) discusses and depicts the relationship between precision, as measured by the sampling error, and sample size.

4. The plan considers the sample designs [3.2] and sample sizes that would result in the desired level of statistical precision.

5. It establishes how to create an actual list of all the units in the population [3.3]. This is a precondition for selecting particular units from the population for the sample. There are a number of ways of developing lists. Cornog (1981) and Hall and Slovic (1976) describe practical approaches. For example, researchers can work from published directories or from the Bureau of the Census files. If necessary they may have to visit the areas to be studied and go from house to house to record apartment numbers if dwelling units or their occupants are to be sampled.

6. Finally, the preliminary sampling plan specifies the rules and procedures for actually selecting the sample of units from the listing [3.4].

Survey Design and Sample Design

The survey design specifies rules and procedures that sampling and data collection will follow [Marans, 1975]. For example, researchers may choose to interview respondents on one occasion or on different occasions over a period of time. They may emphasize the study of groups which contrast on a variable of interest in the research.

After the survey design is determined, researchers must select respondents. This element of the sampling plan is called the sample design [3.2]. The sample design includes rules for assigning probabilities (greater than zero) of being selected as a unit in the sample to all units of the population. Using these probabilities, researchers can create a probability sample, a sample in which the units are representative of the population from which they were drawn. The sample design also includes procedures for determining the statistical precision associated with a particular design and sample size. Marans (1975) offers examples of survey designs and sample designs. Given a selected sample size, the sample design is applied to the list to give the actual sample.

There are two determinants of the accuracy of survey results. One determinant, a basis for statistical precision and a part of the sample design, is the sampling error. A sampling error is a random error associated with probability sampling. The other determinant of accuracy, called a nonsampling error, is independent of sampling. Its effects, unlike those of a sampling error, cannot be estimated in advance. Nonsampling error results from activities that interfere with, bias or contaminate the research. These include an incomplete or inaccurate listing of the population, inadequacies of performance, errors by personnel, questionnaire ambiguities, and mechanical errors during data reduction and data processing. The aim of concerns such as proper sampling and diligent supervision is to reduce sampling and nonsampling errors to levels that make the survey results sufficiently accurate for those who plan to use them [Weiss & Hatry, 1971].

Sampling must be responsive to practical considerations. It is less expensive to interview a sample of households rather than a population of households. If the population is sufficiently small, however, investigators might interview all the households if excluding households would result in unease among occupants that could adversely affect data collection. For certain objectives, nonprobability sampling--selecting a sample that is not representative of the larger population--may be acceptable [Marans, 1975]. For example, researchers could rely on complaints as a measure of the importance of a housing problem [Canter, 1977]. However, only those people who "select themselves" to lodge a complaint are telling about their housing. Results from a nonprobability sample such as this are not objectionable if they are appropriately interpreted and reported.

Choosing a Respondent from a Household

In a post-occupancy housing study, the dwelling could be the sampling unit. In this case, the entire household occupying the unit is the target for the interview. It is possible to interview all household members, but that is not typical. Rather, interviewers probably will select one household member who will speak for him/herself and for the other household members. Who should that household member be?

Traditionally the head of the household was interviewed. Now, however, it is increasingly common for respondents to designate no one as the head of household. The interviewer can randomly select, by coin tossing, among possible respondents in such households. Then no distortion in the overall results are expected. Of course, there may be reasons for choosing one class of household occupants over others as respondents. For example, if the principal topics are children's activities or household furnishability, and there is reason to believe that the adult female member of the household would know more about these things, then using adult females as respondents would satisfy the survey objectives.

DATA REDUCTION

The survey components that convert completed questionnaires into statistical summaries are data reduction [4.2 in figure 1] and data processing [4.6] and their supporting tasks [4.1, 4.3, 4.4, and 4.5]. Data reduction refers to operations applied to questionnaires to ensure they are accurate, complete, and in a form suitable for data processing. The principal operations are editing, coding, and keypunching. Data processing refers to the tabulation and statistical analysis of data (see p. 28).

Data reduction and data processing are such specialized activities that researchers should consider hiring an organization dedicated to these activities, especially if they have planned or conducted a large-scale survey. Only such an organization is likely to have the requisite personnel and equipment to handle the data.

Editing

Editing, according to the U.S. Bureau of the Census (1966), is based on the assumption that it is nearly impossible to obtain and record complete, accurate, internally consistent information during an interview. The edit is a procedure for making incomplete, inaccurate, or inconsistent questionnaire entries as representative as possible of what the respondent would have said.

The best, most direct editing procedure is to interview the respondent again on the items with unsatisfactory answers. This is also the most expensive procedure. More common and less expensive are indirect approaches in which editors create programs to correct unsatisfactory questionnaire entries. These programs are based on a thorough understanding of answers and of respondents [U.S. Bureau of the Census, 1966]. Such understanding comes from a study of the objectives of the editing procedure, the questionnaire, the survey's

objectives and concepts, the interviewers' instructions, and the subject under consideration. The programs can be rigorous and precise, and can be applied by hand or computer to incomplete, inaccurate, or inconsistent entries. Of course, researchers save time and money, but lose information, if they code problematic entries as "not answered" rather than attempting to correct them.

Coding and Code Preparation

As an interview proceeds, answers are recorded on the questionnaire. Precoded items require circling numbers for particular predesignated responses. Open-ended items require transcribing a respondent's reply, as an excerpt or in full, on lines provided on the questionnaire. These answers can be left intact and later read and used, for example, to suggest new hypotheses worth statistical investigation during analysis planning [4.4]. These answers may be coded--inspected and grouped into categories which, in turn, may be labeled with identifying numbers for data processing [4.1]. Preparing codes for open-ended items usually takes place after interviews are completed. Typically, a sample of completed questionnaires is used to assist in devising suitable categories, a procedure that allows a survey researcher to flexibly design categories of answers for any questions whose expected distribution of responses was not known in advance. An excellent example of code development is the classification of occupations. There are so many meaningful possibilities that during interviewing this information is usually recorded verbatim. These responses, such as "manager" or "teacher," can be numerically encoded later using very detailed descriptive systems such as the occupational coding categories of the Bureau of the Census.[4]

Generally, if the survey objectives are understood, then the needed questions and answers, hence the coding categories, should be clear.

The most difficult aspect of codes to explain is the concept of usable variation. For any phenomenon, such as income or satisfaction with a home, the interviewer poses a question and the respondent answers. In precoding or coding answers, relatively gross distinctions, such as high versus low income, or satisfaction versus dissatisfaction with a home, may be perfectly consistent with survey objectives. However, researchers may feel uncomfortable with simple choices like these. So to deal with their discomfort, they opt for more response alternatives. True, it may be just as easy to obtain more exacting answers as it is to obtain simple choices from respondents. Unfortunately, distinctions made by respondents can be as numerous as the number of individual respondents. There usually will be little practical value in processing, or even coding, all possible distinctions. Fruitful data processing and data interpretation are likely to fail at this point because there would not be enough data to permit exploring very many distinctions. If there are too many

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[4] These coding categories, supplemented by an occupational prestige code, are explained and referenced in National Data Program for the Social Sciences, prepared by National Opinion Research Center (1972).

distinctions for the number of respondents, the number of distinctions can be reduced by combining them into a small number of coding categories. This increases the usable variation.

Another way to reduce distinctions and items is to recode. Recoding means combining answers to a number of different questions into a single item, called a recode, and assigning identifying code numbers to the recoded answers. In principle, investigators could combine different questions on maintenance and repair problems or different measures of satisfaction with features of the residential environment. The resulting recodes can reduce the number of items to be statistically processed [4.6] and reduce costs. A meaningful, informative recode will also aid data interpretation [4.7].

Data Entry

There are many ways to get questionnaire data ready for computer data processing. These include keypunching, which is the transcription (punching) of data on 80-column cards; key-to-disk systems, which use computer-assisted visual display terminals to guide, key-in, check, correct, and then transfer data to a storage disk; and optical character recognition systems, which directly read and enter data onto a storage disk. Key-to-disk entry has replaced keypunching in popularity. Regardless of approach, researchers must learn in advance the special requirements of a system so that questionnaires will be in suitable form for the data entry process.

DATA PROCESSING AND ITS PLANNING

Planning

Given the survey objectives and the sampling plan, the researchers must plan their final report [4.3 in figure 1]. What do the researchers want to say about the data they have collected? What will their final report cover? What will be emphasized? What evidence will be needed to make a point and how should this evidence be presented? While all of the above are aspects of planning the final report, the presentation of evidence is especially important. For example, evidence should include comparisons of answers of different respondent groups in the sample. This valuable information, common in survey data processing, would be lost if researchers relied on the collective opinion of their entire sample. Collective opinions can be misleading if they distort or disguise the contribution of the different respondent groups that make up the sample.

Another aspect of planning the final report is the initial construction of tables that will appear in the final report. Researchers should describe what each table will include, create shells or mockups of the tables, and prepare headings for the tables. Thus, the researchers will have all of the table

except the statistical output at this point. Having these tables fully produced by computer can save the time and expense of typing, proofreading, and when errors are found, retyping tables.

All of these considerations will focus the statistical analysis on what is most useful in the study. For example, because the typical housing questionnaire provides the raw material for hundreds of analyses of items and topics, budgetary constraints usually limit data processing to the information required in the final report.

Data processing [4.6] refers to the tabulation and statistical analysis of data. Data processing requires analysis planning [4.4], which means deciding on the proper statistical procedures, given the sampling design, for measuring, weighting, and testing the data.

After the report outline and analysis plans are established, two questions remain: (1) What is required to transform the plans for the final report into statistical output? and (2) What steps and procedures are required to do this efficiently? Tabulation specification [4.5] answers these questions. It takes into account the available equipment for statistical analysis and the available budget. The tabulation specification should generate the tables you have specified. This should include the shells, headings, and statistical output.

The use of the computer for data processing is strongly recommended. In all but the smallest survey, it is much cheaper and much more powerful, reliable, and manageable to use electronic data processing equipment than to do statistical analyses by hand. Because survey data have rather peculiar data processing requirements (e.g., large numbers of variables for each case and lack of routine, standardized report formats), researchers should use existing special-purpose software such as the SPSS/Statistical Package for the Social Sciences [Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975].

Any special requirements of the computer programs for statistical analysis should be incorporated in the questionnaire and in the instructions for data reduction, including data entry. An example of a special requirement is whether the software distinguishes between a zero and a blank (e.g., SPSS does not). A zero is an answer; "none" could be coded zero. A blank means no answer was given. For example, a renter could have been instructed to skip a question that applied only to homeowners.

Another special requirement is whether the software accepts alphabetic codes and, if it does, whether it requires special symbols to designate alphabetic information. SPSS accepts alphabetic codes but only if specific symbols are used (see p. 116).

In planning the analyses, researchers should bear in mind that survey results rarely provide final and complete answers to the questions that directed the survey [1.1]. However, the results can substantially refine the thinking of the intended readers and provide them with information about the principal priorities and concerns of the population studied.

Statistical Analysis

Surveys generally rest on statistical summaries of relationships among items, and differences among responses of different groups of respondents to these items. The means to this end is data processing [4.6], computational procedures for determining statistical values. Several classes of procedures are part of survey data processing.

1. Tabulation refers to counting the number of cases within coding categories of variables. Tabulations for single variables are often called marginals. Tables 6, 7, 8, and 9 in chapter 4 illustrate two-way tabulations (i.e., variables taken two at a time). These are also called cross-tabulations, as are variables taken three, four ... at a time.

2. Descriptive statistics are used for describing what is. For example, there are descriptive statistics for describing (a) what is typical in a group, (b) how widely individuals in a group vary, (c) how individuals are distributed on a variable, (d) what the relationships are between one variable and others, and (e) what differences exist among groups on one or more variables.

3. Inferential statistics commonly are used to make generalizations from the sample to the population. Inferential statistics rest on probability theories of event likelihood. In part, the generalizations (inferences) are determined by specific conditions, such as having drawn a probability sampling, and decisions over which the researchers have a say. When researchers specify statistical precision, they have decided their tolerable limits for making certain estimates. Inferential statistics tend to be a basic feature of survey data processing.

Clearly, a very broad range of data processing procedures may be used with survey data. Although survey reports commonly are filled with percentages and other census-like tabulations, these are not very meaningful in themselves. Therefore, tabulations are supplemented with or replaced by the use of the other classes of statistical analysis procedures. Although many statistical techniques have proven their usefulness in survey data analysis, there is no standard approach. Good data processing tends to involve the joint use of different statistical procedures in order to confirm results. For any large survey, those responsible for the planning, processing, analyzing, and reporting of survey data should be expert in the statistical analysis of survey data.

DATA INTERPRETATION AND REPORT PREPARATION

What does the statistical output mean? How can this statistical material be translated into words that are useful and meaningful to the intended readers? Answering the first question is part of data interpretation [4.7 in figure 1]; the main thrust of report preparation [5.1] is to provide the answer to the second question.

Data interpretation focuses on interpreting and integrating statistical output. Data interpretation should include reading completed questionnaires from beginning to end. This gives the interpreter/writer the opportunity to obtain for each questionnaire a comprehensive picture of a single case. Moreover, respondents' comments can illustrate and clarify concepts, illuminate complex relationships, and suggest ideas that are not apparent in tables. The inclusion of respondents' comments in the final report can enliven the text, clarify difficult material, and as a consequence make the report more accessible to its nontechnical readers as well as more entertaining.

Writing a technical report requires writers who can present ideas with great skill to technical and to nontechnical audiences. Such writers have well-organized ideas and make points skillfully, clearly, logically, precisely, and sensibly. The greatest obstacle a report writer faces is the too frequent "crash program" approach to survey research, with its tight schedules and budgets that leave too little time for reflection and for revision of the text. The crash program approach has been singled out by Davis (1975) as a major factor contributing to the technical problems of contemporary survey research.

Since the final report is the sponsor's (i.e., client's) record of a project, the sponsor should read previous reports by the candidates for this job before hiring or accepting an assigned writer. Curiously, this is one decision with which clients seldom involve themselves (Davis, 1975).

SUGGESTED READINGS

Survey Research--General Guides

Cornog, J. R. Development and administration of the community survey. In L. Llewellyn, C. Goodman, & G. Hare (Eds.), Social impact assessment: a source for highway planning (Vol. 4). Washington, D.C.: Federal Highway Administration, U.S. Department of Transportation, 1981. A readable, practical volume on survey research.

Ferber, R. (Ed.). Handbook of marketing research. New York: McGraw-Hill, 1974. Contains numerous chapters on survey research.

Population Council. A manual for surveys of fertility and family planning: knowledge, attitudes, and practice. New York: The Population Council, 1970. Considered by some to be among the better single-volume guides to survey research.

Selltiz, C., Jahoda, M., Deutsch, M., & Cook, S. W. Research methods in social relations (2nd ed.). New York: Holt, Rinehart & Winston, 1959. Several chapter give sound, readable, practical advice on survey research.

U.S. Bureau of the Census. Atlantida: a case study in household sample surveys (14 vols.) (Series ISPO-1). Washington, D.C.: Bureau of the Census, 1965. A 14-volume series giving a comprehensive technical introduction to household sample survey programs.

Survey Research--Its Value

Davis, J. Are surveys any good, and if so, for what? In H. W. Sinaiko & L. A. Broedling (Eds.), Perspectives on attitude assessment: surveys and their alternatives. Washington, D.C.: Smithsonian Institution, 1975. Addresses the question of whether to do a survey. Presents practical advice.

Juster, F. T. Validity procedures at the Survey Research Center. In M. J. Schlinger (Ed.), Advances in consumer research (Vol. 2). Chicago: The Association for Consumer Research, 1975. Advocates properly conducted survey research.

Wheeler, M. Political polling: the German Shepherd factor. The Washington Monthly, April 1976, 42-50. Exposes the weaknesses of survey research as now practiced.

Survey Research--Housing

Hall, W. G., & Slovic, L. T. Survey manual for estimating the incidence of lead paint in housing (NBS Technical Note 921). Washington, D.C.: National Bureau of Standards, 1976. (Available from U.S. Government Printing Office, No. SN003-003-01660-8.) An example of a detailed, practical guide to a particular type of housing study, one whose objective is to estimate the incidence of lead paint in housing.

Questionnaire Preparation--General

Oppenheim, A. N. Questionnaire design and attitude measurement. New York: Basic Books, 1966. Discusses writing questionnaire items and measuring opinions. Provides principles of scale construction that can be used to measure basic traits, attitudes, or aspirations of respondents.

Questionnaire Preparation--Basic Personal Data

The following sources describe well-standardized approaches to obtaining information on such topics as the respondent's age, education, and occupation.

National Opinion Research Center. National data program for the social sciences: codebook for the spring 1972 general social survey. Chicago: National Opinion Research Center, University of Chicago, July 1972.

Richard, R. Subjective social indicators. Chicago: National Opinion Research Center, University of Chicago, 1969. (Available from National Technical Information Service, No. PB 187 944).

U.S. Office of Management and the Budget. Household survey manual 1969. Washington, D.C.: U.S. Government Printing Office, 1969.

Questionnaire Preparation--Physical Characteristics of Respondents

National Center for Health Statistics. Health survey procedures: concepts, questionnaire development, and definitions in the Health Interview Survey (Public Health Service Publication No. 100, Series 1, No. 2). Washington, D.C.: U.S. Government Printing Office, 1964. Provides well-standardized approaches to getting information on such topics as health, sensory capacities, and disabilities.

Questionnaire Preparation--Established Tests

The following sources present established psychological and sociological tests.

Bonjean, C. J., Hill, R. J., & McLemore, S. D. Sociological measurement: an inventory of scales and indices. San Francisco: Chandler, 1967.

Shaw, M. E. & Wright, J. M. Scales for the measurement of attitudes. New York: McGraw-Hill, 1967.

Survey Techniques

Dillman, D. A. Mail and telephone surveys: the total design method. New York: Wiley-Interscience, 1978. A detailed single-volume work specifically on mail and telephone surveys.

Weiss, C. H., & Hatry, H. P. An introduction to sample surveys for government managers. Washington, D.C.: The Urban Institute, 1971. An excellent introduction to surveys that includes a comparison of the costs of three survey techniques. The reader must convert 1971 dollars into current dollars.

Tuchfarber, A. J., & Klecka, W. R. Random digit dialing: lowering the cost of victimization surveys. Washington, D.C.: Police Foundation, 1976. Assesses the advantages and disadvantages of surveys employing personal and telephone interviewing. Also discusses random dialing as an approach to sample design for telephone-based surveys.

Interviewing

Cannell, C. F., Oskenberg, L., & Converse, J. Experiments in interviewing techniques: field experiments in health reporting 1971-1977. Ann Arbor, Mich.: Institute for Social Research, University of Michigan, 1980. Describes how to minimize interviewer differences and inadequacies, and how to maximize respondent involvement in the interview.

Converse, J. M. & Schuman, H. Conversations at random: survey research as interviewers see it. New York: Wiley, 1974. Discusses survey research interviewing from the perspective of both new and experienced interviewers.

National Opinion Research Center. A brush-up on interviewing techniques. Chicago: National Opinion Research Center, University of Chicago, 1969. A worthwhile manual.

Survey Research Center. Interviewer's manual (Rev. ed.). Ann Arbor, Mich.: Institute for Social Research, University of Michigan, 1976. Another worthwhile manual.

Sampling

Kish, L. Survey sampling. New York: Wiley, 1965. An outstanding, though highly technical, work.

Survey Analysis

Kendall, P. Problems of survey analysis. In R. K. Merton & P. Lazarsfeld (Eds.), Continuities in social research: studies in the scope and methods of "The American Soldier." New York: Free Press, 1954. Provides a basic exposition of the logic of survey analysis.

Data Reduction and Data Processing

Sonquist, J. A. & Dunkelberg, W. C. Survey and opinion research: procedures for processing and analysis. Englewood Cliffs, N.J.: Prentice-Hall, 1977. Presents the technical details of data reduction and data processing.

Additional sources are cited in the text of this chapter.

CHAPTER 3: A MODEL FOR SELECTING COMPARISON HOUSING GROUPS

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CHAPTER 3: A MODEL FOR SELECTING COMPARISON HOUSING GROUPS

INTRODUCTION

This chapter introduces the use of control groups in research designs of post-occupancy housing evaluations. Accurate and meaningful interpretations of research results depend on the use of appropriate research designs. But the time and energy required to obtain adequate control groups appears to have discouraged their use in research designs of housing evaluations. Clearly, there is a need to have a strategy for efficiently and effectively selecting control groups for these evaluations. By addressing that need, this chapter hopes to encourage and increase the use of research designs with control groups, when appropriate.

The proposed model for selecting respondents for control groups is in a workable but preliminary form. It was first employed in a Project Feedback study described in chapter 4. This study is one of the first post-occupancy housing evaluations to have a research design with independent control groups. Even in this preliminary form, the proposed model offers a practical and feasible basis for selecting respondents for control groups for housing studies. Of course, researchers should critically consider its applicability to a specific housing evaluation before using the model.

There is good reason for using research designs that include control groups. Control groups should help establish the plausibility of researchers' statements about the effect of the treatment variable on the outcome variable. Thus in Project Feedback the control groups were selected to establish the plausibility of statements concerning the effects of industrialized construction on occupants' acceptance of Operation Breakthrough (OBT) housing. Control groups consisting of conventional dwellings also increased the chances of disentangling the positive and negative housing features unique to OBT housing from those shared by OBT and conventional housing.

The decision to use conventional housing as control groups in Project Feedback raised a number of issues. For example, OBT and conventional housing should differ on only those features that collectively define OBT housing as industrialized. As discussed in chapter 1, this ideal embodied in the laboratory experiment is often not reached in studies in natural settings. In such settings, however, researchers can apply the logic of laboratory experimentation by using quasi-experimental research designs [Campbell, 1969; Caporaso & Ross, 1973, Cook & Campbell, 1976]. The reasons for using the quasi-experimental research design approach is to minimize the threats to researchers' interpretations of their results. These threats are raised by differences between groups associated with factors other than the treatment variable(s).

THE SELECTION MODEL: CONCEPTS

The National Bureau of Standards (NBS) decision to include conventional housing within their research design raised the question: Which OBT housing and conventional housing should be compared? This simple question posed two problems.

First, in 1972 when NBS conceived the idea for the research design, only one post-occupancy, quasi-experimental evaluation was found. This was the notable study by Lansing, Marans, and Zehner (1970). But this study focused on new towns rather than on housing. Second, the matching of conventional and industrialized housing could not include all of the factors which could distinguish conventional and OBT housing systems. The factors would have to be limited to a valuable few that were practical and feasible to use. This is another way of saying that the conventional housing groups would not be pure control groups. Rather the conventional housing would be impure control groups [Rossi, 1972, p. 36], which are called "comparison groups" (CG's).

The model for the selection of comparison housing was developed in 1973 for use in Project Feedback. The model was based on three assumptions. First, independent control groups of housing could be selected from the population of conventional housing groups by matching these groups with OBT housing. Second, matching could be based on physical, social, and economic variables known to influence housing judgments. Third, actual selection could be done in the field.

These assumptions raise certain problems. If the number of important physical, social, and economic variables increases, the cost of matching groups greatly increases. Furthermore, even if a limited number of variables is used, cases can arise where a good match cannot be found in the field without spending much time and energy in the search. These problems were the reasons for developing a strategy for the efficient and effective selection of control groups.

The selection strategy assumed that three general classes of variables affect occupants' assessments of their housing. The first class consists of the the physical aspects of the dwelling (internal elements), such as ceiling and wall texture, fixtures, size of unit, and dwelling layout. The second class consists of physical, social, and economic aspects of the site and surrounding community (external elements), such as local economic and political conditions. And the third class consists of the physical, social, and economic aspects of the region that includes the site and surrounding community (regional elements). Climate, ecology, and housing market preferences are examples of regional elements.

To implement the selection, all three class of elements had to be included. For each element, researchers would select only those variables that were practical and feasible for field selection procedures and that were likely to influence occupants' attitudes about their housing. Thus, a limited number of variables was used. These variables were used either as initial selection criteria or as selection criteria.

Initial Selection Criteria

All housing groups considered as possible CG's were first evaluated using three initial selection criteria. These offered gross control over internal, external, and regional elements. To control internal elements, researchers required all comparison housing to be of conventional construction, preferably

conventional housing in conformance with the Federal Housing Administration's Minimum Property Standards (MPS). All the selected CG's met the MPS requirement. There were three reasons for wanting such housing:

1. It ensured a housing construction standard for conventional units that would eliminate very poor quality housing, some costly conventional housing, and special types like domes and mobile homes;

2. It took advantage of performance specifications for OBT housing that required, at a minimum, achieved levels of performance equivalent to levels implied or intended by the MPS [Wright, 1971];

3. It emphasized the Department of Housing and Urban Development's (HUD's) involvement with the American housing production system since both OBT and the MPS are HUD enterprises.

To provide gross control over regional and external elements, researchers decided that the conventional housing had to be located in the cities and suburbs with OBT developments. In addition, because all OBT developments were planned unit developments (PUD's), researchers gave priority to conventional housing developments classified by local ordinances as PUD's and having some of the same features (e.g., amenities and services) as OBT developments. This helped provide gross control over physical aspects of the housing site, an external element.

This simplified approach was necessary because of the number of potentially relevant variables involved, the inadequacy of systems for classifying these variables, and the multiple linkages between any given variable and proposed attitudinal measures.

Selection Criteria

Each conventional housing group that met the initial criteria was then compared with its OBT housing development on nine selection criteria. These criteria, summarized in table 1, include physical, social, and economic variables representing internal and external elements. Onsite amenities are an external/physical variable. Age of dwelling, size of dwelling, and housing type and mix of types onsite are internal/physical variables. Monthly rental cost, price range of sold units, and renter/owner status are external/economic variables. Racial mix and stage in the occupant's life cycle are external/social variables.

Each selection criterion met the demands of seven rules that had been developed to assess the adequacy of potential selection criteria (see appendix 1):

1. Each criterion must be known to influence housing judgments.

2. It must be practical and feasible for field use.

Table 1. Summary of criteria and their measures used for selecting comparison housing groups.*

Class	Criterion	Measure
Physical/ internal	Age of units	Age in years. [Aimed for units less than 6-years old and preferably 2-years old.]
Physical/ internal	Housing types and mix of housing types	Determined the number of each type: SFD, SFA, MFLR (2-3 floors), MFHR (4 or more floors).[a]
Physical/ internal	Size of unit	Number of bedrooms (BR). [Determined how many efficiency, 1-, 2-, 3-, 4-BR units for each housing type on site.]
Physical/ external	Onsite amenities	Determined which were present: large open spaces, community building/room, recreational facilities (see table 3, "amenities" for examples).
Economic/ external	Type of tenancy	Determined whether and how many units were: rentals, sole ownership, cooperative ownership.
Economic/ external	Price range	Determined the range of: monthly housing costs for rental and cooperative units; present market price range for sole ownership. Determined which subsidy and supplementation programs were applicable and to what extent.
Social/ external	Stage in the occupant's life cycle	Determined the percent or number of households in which heads/households were elderly (62 years or older), students (undergraduate, graduate or professional school). Remainder ("other") were usually families with children and/or household with a working head.
Social/ external	Racial mix	Determined the exact percent or number (when possible) of white and black households/ occupants.[b]

* Adapted from Carson Consultants, 1973, p. 8.

[a] SFD = single family detached, SFA = single family attached, MFLR = multifamily low rise housing, MFHR = multifamily high rise housing.

[b] Other minorities were counted but were very few in number.

3. It must be easy to measure.

4. It must be based on accurate information.

5. Researchers should select the easier of two equivalent measures of a criterion.

6. Researchers should use criteria with multiple sources of information for validation.

7. Sources of information about a criterion and ways of reaching these sources should be obvious and logical.

Nevertheless, unmatched factors will remain after matching. In the comparison of OBT and CG housing, a number of these unmatched factors were measured so they could be statistically compared (see pp. 48-49). The measured unmatched factors should not increase bias. Unmeasured unmatched factors that occur randomly also should not increase bias. However, those factors which are unmeasured and which, unknown to the researcher, do not occur randomly do increase bias. The researcher, therefore, must stay alert to these sources of potential bias because they can foster plausible alternative explanations of results.

Split Comparison Groups

Because all OBT developments were PUD's, the research team sought comparison housing developments classified by local ordinances as PUD's and which had some of the site features that characterized OBT developments. If no single PUD with conventional housing in an OBT city shared all the relevant physical, social, and economic characteristics with the local OBT development, then multiple CG's were sought. These groups collectively represented all or most of the characteristics of the OBT development. Each of these multiple CG's was called a split comparison group because each CG matched the OBT development only on a subset of the physical, social, and economic variables that characterized the OBT development. This approach was based on two untested assumptions. One assumption was that correlations among the selection criteria would be low, an assumption that a more recent study says is likely to be false [Lawton & Cohen, 1974, p. 204]. The other assumption was that categories of a given selection criterion would be uncorrelated with one another (see p. 44). Compared with the preferred option of using a single, adequate CG, this approach necessarily trades the opportunity to gain an adequate match on a number of factors through aggregation against a consequent loss of precision in matching.

THE SELECTION MODEL: FIELD PROCEDURES

Ordering of Tasks

Field experience indicated that the selection process should consist of two phases: familiarization with OBT housing and development of a list of potential comparison housing. Familiarization should include first, reviewing HUD

and NBS material about OBT and its housing, and second, visiting the OBT development in a target city. The next phase, list development, should include the following tasks in the order given: (1) visiting the city's planning department, (2) consulting other supplementary sources of information in the city, and (3) getting a Sunday paper and a pocket map of the city to locate potential CG developments. Since consulting sources is necessarily a sequential routine, the researcher can develop a self-correcting network of informants and information. Moreover, earlier contacts may suggest additional sources of information. These two phases are followed by visits to the potential CG's.

Table 2 describes the routine and supplementary sources used in each OBT city. Unlike in Project Feedback, HUD and NBS will not be likely sources of useful information in most housing evaluations. Instead the architect, site planner, site developer, and housing producer should be consulted.

The following recommendations for interviewing informants about potential CG's are based on the experiences of NBS field workers. Researchers who interview informants about potential CG's should ask specific, standardized questions. Broad questions, such as "Tell me about the new housing developments in the city," are not recommended. Questions should draw on the selection criteria and on the initial selection criteria. They should establish whether a close match is available. If initial answers are negative, which was typically the case in Project Feedback, investigators can systematically relax requirements for comparison housing until it is possible to obtain affirmative answers. These interviews should produce a list of potential CG's. Priorities for site visits can be based on frequency of mention of sites and on pertinent comments by informants.

This approach to information collection does not necessarily produce an exhaustive listing of candidate developments. However, the probability of excluding an appropriate candidate should be small under the following conditions:

1. Informants come from widely different backgrounds and are familiar with the local housing market,

2. Researchers cross-check information, and

3. Explicit variables and criteria guide both the field work and the interviews.

Visits to Potential Comparison Group Housing Developments

The field workers visited each potential CG housing development once or twice. During the first visit, the field worker evaluated external elements and selection criteria using a list similar to that in table 3. There was an emphasis on rough, descriptive measures which could be checked off "yes" or "no." More precise measures, if required, could be obtained during a second visit. Photographs were taken. Not only did photographs help point out problems that might

Table 2. Routine and supplementary sources of information about potential comparison groups.

Routine Sources in Each OBT City
OBT site personnel: Varied in amount of information given. Frequently gave descriptive statistical information about the OBT development. Sometimes gave brochures and a ride around the development.
City and county planning officials and statisticians: Varied in the recency and completeness of planning information. Usually provided summaries of housing trends, local census data, and maps. Sometimes gave printed information on recently built apartment complexes and PUD's.
Selected realtors and developers: Can provide specific information about rentals, sales, sizes of units, and types of housing. Realtors from large firms usually are the most knowledgeable.
Sunday classified housing advertisements: Provide quick, reasonably complete picture of available housing. Advertisements for new housing describe site location, types of housing, prices, subsidies (if any), special groups sought, number of units, size of units, and onsite amenities.
Other city and county officials (building inspectors, assessors, housing and community development personnel).
Local HUD officials.
Site management personnel at potential comparison sites.
Specific housing developments.
Supplementary Sources in Each OBT City
Chambers of Commerce: Typically have advertisements. May have maps, brochures, city growth statistics, and job opportunities.
Local industrial and research organizations: May have summaries of studies of housing and growth rates.
Published material, brochures, and reports: Major sources are census tract information and block statistics from the most recent census.[a] This information, including annual updates, may be available from the city planning department.
City and county administrators.
State or city special group personnel (housing administrators for the elderly, student housing officials, etc.).

[a] Block statistics contain data for individual city blocks on selected housing and demographic items, such as number and type of housing units; house size, age, and value; and racial composition of occupants. This information enables comparison of blocks within a selected radius of an OBT site. Tract statistics may be too large for direct use but could be used for comparisons between block and tract statistics.

Table 3. Gross site characteristics.*

PUD Characteristics of OBT Sites	Access (in minutes)
	Center city
Flexible layout/siting	Shopping
	Schools
Number of bedrooms by housing type	
Single family detached	Surrounding community
Single family attached	Inner city/older surroundings
Multifamily low rise	Settled area with sound housing
Multifamily high rise	Developing area/newer housing
Cluster housing/open space	Area of site (acres)
Onsite parking	Number of buildings on site
Amenities	Number of dwelling units
Community building or community room	
Playing fields	Dwelling units per acre (density)
Tot lots and playgrounds	
Swimming pool	Census Information
Other Characteristics	Median family income (city)
Age of structures	Tract number
	Median family income
Price range by type of tenancy	Number of dwelling units
Rental	Apartments[a]
Sales	Single family[a]
Cooperative	
	Median sales price
Types and extent of housing subsidies	
	Median rental price
Special provisions for	
Elderly	Percent black
Students	
Percent minority (approximate)	
Black	
Oriental	
Chicano	
Other	

* Adapted from Carson Consultants, (1973, pp. 13-14).

[a] When appropriate, "rented" was substituted for "apartments" and "owned" for "single family."

not otherwise be apparent in statistical or written summaries, but they also gave members of the research team who had not visited a particular site a feel for the site.

During site visits information was obtained from direct observation, discussions with management and site personnel, and brochures and statistical summaries. This information, supplemented by information from other sources, provided the basis for evaluating the CG. The evaluation and integration of the information, and the decision about the adequacy of the match between the CG and OBT developments, rested on personal judgment rather than on formal decision models.

During a site visit information was obtained on the variables in table 3 in the following order: (1) PUD characteristics, amenities onsite, and the match between the OBT and the potential CG site on these factors, and then (2) the remaining variables. The order for obtaining information on the remaining variables was based on the field worker's evaluation of the importance of each matching variable to the characterization of the city's OBT development. Thus, in Indianapolis with its heavy concentration of college students at the OBT development, this social variable was the first of the remaining criteria to be considered at a potential CG site.

An important guideline in using selection criteria was that a specific criterion could be relaxed if a potential CG was proving to be a good match. There were two ways to do this: (1) eliminating one or more levels of a criterion (e.g., eliminating four bedrooms units on the OBT site from matching because there were none on the potential comparison site) and (2) permitting a mismatch (e.g., accepting a non-PUD site as a split CG).

If the levels of a criterion are regarded as independent, eliminating levels does not affect the plausibility of an interpretation. But if critical levels of the site under study are eliminated, this procedure may affect the generality of results. As a result, nonoverlapping distributions on a selection criterion for the potential CG and the OBT housing developments were a reason for rejecting the potential CG. For example, researchers would reject a potential CG with efficiency and one-bedroom apartments if the OBT housing had only two- and three-bedroom apartments.

Permitting a mismatch on a selection criterion could also create problems because all the selection criteria were known to influence housing judgments. Thus, if two groups were mismatched, the resulting difference between the groups could provide a basis for different responses by respondents in each group to questions related to the selection criterion.

Characteristics of the Potential Comparison Group Housing Developments

In the OBT cities, few non-OBT PUD's were comparable to the OBT sites in variety of housing types, amount of dwelling unit space, site amenities, and site layouts. Specifically, OBT housing provided a mix of housing types, often three or four housing types, compared with the typical mix of single family attached and multifamily low rise housing on non-OBT PUD's. The OBT sites

also featured larger units, both in number of bedrooms and in total square footage; a full range of recreational facilities uncommon in nonluxury PUD's; and site planning emphasizing housing clusters and extensive open space which were uncommon in nonluxury PUD's. Some, but not all, OBT PUD's preserved and enhanced natural features, an even less common practice at non-OBT PUD's.

Those non-OBT PUD's that did have all the characteristics of OBT developments had prices in the luxury range--often twice the cost of comparable OBT housing. Because price is so closely associated with such vital factors as racial mix, residents' education, income, lifestyle, and site location, this selection variable could not be relaxed.

An alternative to the luxury conventional housing development was the development with subsidized conventional housing. The term "subsidy" is used generically and includes both subsidies and supplements to occupants from all levels of government. Often these middle-income developments lacked the range of site amenities, the variety of housing types, and the dwelling unit space that were typical of OBT developments. In addition, some had serious management problems, including maintenance deficiencies, lack of adequate management funds, high vacancy rates, or undesirable tenants such as criminals or drug addicts. Nevertheless, researchers eventually chose three CG's with subsidized housing: groups 4, 5, and 6 in table 4. The OBT groups with which groups 4, 5 and 6 were being compared also had subsidized households. In fact, some OBT developments, including the Sacramento and St. Louis developments, had both subsidized and market-rate units. Consequently, these developments presented a broad income range. These OBT developments combined a technological experiment involving industrialized, prototype housing with a social experiment involving a mix of occupant groups.

A third type of conventional housing development, the one from which most of the comparison housing was selected, was the market-rate PUD aimed at middle- to moderate-income tenants. Typically, this housing was not up to OBT development standards. There was a marked stereotyping of style, homogeneity of housing types (typically only one), limited sizes of dwelling units (with few larger units, such as four bedroom units), few site amenities (often only a swimming pool and a limited-use clubhouse), and a narrow range of prices. Moreover, these PUD's tended to have residents representing a narrower range of incomes and stages in the occupant's life cycle than comparable OBT sites. However, these PUD's did seem to represent the available PUD's in both urban and suburban areas. Five market-rate CG's--groups 1, 2, 3, 7, and 8 in table 4--were part of the study.

When there was no single, suitable PUD as a CG, researchers considered split comparison groups. The CG's for the St. Louis OBT development (groups 6 and 7) and for the Sacramento OBT development (groups 3, 4, and 5) were split comparison groups (see table 4).

Site Management Cooperation

A precondition for the selection of an otherwise suitable CG was securing management approval to conduct face-to-face interviews with occupants.

Table 4. The eight matched pairs of OBT and conventional housing groups.

Pair[a]	Comparison Group[b]	OBT Site/Subsite and Housing Type[c]	Type of Occupant[d]
1	Group 1	OBT Kalamazoo MFHR	Elderly
2	Group 2	OBT Memphis SFA	Student
3	Group 3	OBT Sacramento SFA	General population
4	Group 4	OBT Sacramento MFLR	Elderly
5	Group 5	OBT Sacramento MFHR	Elderly
6	Group 6	OBT St. Louis SFA-MFLR	General, student
7	Group 7	OBT St. Louis MFHR	General, student
8	Group 8	OBT Seattle	Inner city

[a] Matched groups are called "Pairs."

[b] Comparison groups are coded to preserve their anonymity.

[c] If a specific comparison group is matched with one or two, but not all, housing types on an OBT site, the matched housing type is indicated. SFA = single family attached, MFLR = multifamily low rise, MFHR = multifamily high rise housing.

[d] "Student" included undergraduates and students in graduate or professional school. "General" usually designated families with children and/or with working heads of households.

Managers of subsidized developments tended to be more receptive to housing evaluation interviews than managers of market-rate or luxury developments, and managers of market-rate developments who were familiar and sympathetic with OBT tended to be more receptive than those who were not. Because of management refusal of onsite interviewing, investigators had to drop two preferred CG's. In both cases, less-preferred alternatives which were adequate matches were selected. These are CG's 1 and 2 in table 4.

The Number of Comparison Groups

No limit was placed on the number of OBT developments for which there could be CG's. The field workers evaluated possible CG's for all eight OBT developments. In the end, suitable CG's were found only for the OBT developments in Kalamazoo, Memphis, Sacramento, St. Louis and Seattle. Eight CG's, including five split comparison groups, were selected for these five OBT developments. The eight pairs of groups appear in table 4.

In terms of total sample sizes, there were 551 conventional housing units and 698 OBT units in the eight matched groups. The 551 CG units began as probability samples from the populations of eligible conventional housing units at the selected CG sites. Those units for which no interviews could be obtained were replaced by other units. Appendix 2, pp. 207-209, describes this substitution process, a subject of conflicting opinion as a sampling technique. The substitutions allowed the investigators to meet their requirements of a minimum number of completed CG interviews per site. From the eligible OBT groups, occupants of 698 units completed usable questionnaires. All 698 questionnaires were used in the comparison of OBT and CG occupants' opinions.

There were several reasons for wanting multiple OBT-CG pairs in the research design. First, the researchers planned to measure occupants' attitudes toward their housing once, and that one time was while the occupants were living in the housing under investigation. If the investigators had limited themselves to only one pair, one experimental group and one CG, they could have created serious difficulties in making proper causal interpretations of their results [Cook & Campbell, 1976, p. 249]. In other words, they might not have been able to establish whether the treatment variable was the most plausible explanation of the results. A second reason is the researchers wanted the full range of physical, social, and economic variation of the OBT housing developments to be included in the comparison of opinions. That is, they not only wanted the groups in a pair to be relatively similar on the selection criteria but they also wanted the pairs, collectively, to represent a variety of social, economic, and physical characteristics. Both of these aims were realized.

Given multiple pairs of matched experimental groups and CG's, the research team could assess whether specific OBT-CG differences in occupant attitudes arose only in certain occupant groups or held across different occupant groups (e.g., students, families with children, and elderly). These tests were important because social and economic characteristics of people have been shown to affect their attitudes, including attitudes toward the built environment [Michelson, 1974; Weinberg, 1970]. The research team could also assess whether specific housing judgments reflected occupant group characteristics or the treatment

variable or both. Putting this into a larger perspective, a research design with multiple pairs of experimental groups and CG's allowed comparisons within pairs, across all pairs (OBT vs. CG, overall), and--most importantly--between specific pairs with shared or different social, economic, and physical characteristics. This approach aids proper causal interpretation of results [cf. Cook & Campbell, 1976, pp. 265-268, 271-274].

SUCCESS OF THE SELECTION MODEL

Two procedures were part of the matching of OBT and CG sites. They were (1) the application of criteria in a field setting prior to interviews with respondents, and (2) a retrospective analysis of field and interview data relevant to the match between groups following the completion of interviewing. In the retrospective analyses, physical variable data were usually based on information collected during site selection field work, and social and economic variable data were usually based on interview results. The retrospective analysis used 19 variables: the selection criteria, the PUD criterion, and 9 additional variables. The additional variables consisted of onsite services, family income, occupation and education of the head of the household, size and type of family, duration of tenancy, and sex and age of the respondent. The 19 variables are listed in table 5.

A simplified process was used to evaluate the success of matching. The largest difference for the categories or levels of each variable for each pair was determined. All differences were measured as percentages. In lieu of statistical tests of these differences, four size-of-difference categories, each with an assigned value, were applied to these differences.

Size of Difference	Labels	Value
under 5 percent	excellent	4
5-10 percent	good	3
10-20 percent	fair	2
over 20 percent	poor	1

For each pair and each variable, researchers calculated the average value of the largest observed difference. For example, in Kalamazoo (Pair 1) 91.1 percent was the largest difference between OBT and CG housing costs, which were in the $99 and under range. Thus, this was a poor match. But in Memphis (Pair 2) 3.6 percent was the largest difference between OBT and CG housing costs, which were in the $100-$199 range. Thus, this was an excellent match. The criterion of success was an average value equivalent to the "good" label. All eight pairs met this criterion. Only two of the factors (monthly costs, and number and type of amenities) showed less than good matching (see table 5).

Researchers also conducted an earlier retrospective evaluation, upon which the preceding one was modeled. In its method and outcome the earlier one was more conservative. Nevertheless, the conclusions from both retrospective evaluations substantially agree. Both lead to the conclusion that the selection method was successfully implemented in the Project Feedback study of OBT housing occupants. Success notwithstanding, every model has its limitations.

Table 5. A retrospective evaluation of the success of the comparison group selection method.*

Matching Variables	Operation Breakthrough and Comparison Group Pairs[a,b]								
	KAL 1	MEM 2	SAC 3	SAC 4	SAC 5	STL 6	STL 7	SEA 8	OVERALL
Physical									
**PUD status	E	E	E	E	F	E	F	E	E
**Amenities	G	G	F	F	P	F	G	G	F
Services	E	E	G	G	E	E	F	E	E
**Type of unit	P	E	E	E	E	F	E	E	G
**Size of unit	E	F	E	E	E	E	G	G	E
**Age of unit	E	G	E	E	E	P	P	G	G
Economic									
**Tenancy type	G	E	G	G	E	E	E	E	E
**Sales price	-	-	E	-	-	-	-	-	E
**Monthly housing costs	P	E	E	F	F	E	P	P	F
Family income	F	G	E	E	E	E	P	P	G
Social									
Occupation of head	P	E	P	E	E	E	F	G	G
Education of head	E	F	F	E	G	E	G	E	G
**Race	E	E	E	E	E	E	E	F	E
Family size	E	F	P	P	E	G	G	G	G
Family type	E	E	E	F	E	E	G	G	E
**Stage in family life cycle	E	G	G	F	E	G	G	F	G
Other									
Tenancy duration	E	E	P	E	F	P	G	E	G
Sex of respondent	E	F	F	G	E	E	G	E	G
Age of respondent	G	G	G	E	E	G	G	G	G
OVERALL BY SITE	G	G	G	G	G	G	G	G	

* Adapted from a table prepared by Dr. Daniel Carson.
** Indicate variables considered during the field search for comparison housing.

[a] Matching: E = Excellent, G = Good, F = Fair, and P = Poor.

[b] City abbreviations:

KAL = Kalamazoo
MEM = Memphis
SAC = Sacramento
STL = St. Louis
SEA = Seattle

The technical limitations of the proposed model are discussed in Carson, Margulis, Carson, and Wehrli (1980). Additional issues raised by matching as a research design procedure are discussed by Anderson, Auquier, Hauck, Oakes, Vandaele, and Weisberg (1980).

SUGGESTED READINGS

A word of caution to those readers without research experience: research designs that treat surveys as experiments pose difficult technical problems. Such readers should seek expert counsel. However, the following readings can help readers in discussions with experts.

Research Designs

Anderson, S., Auquier, A., Hauck, W. W., Oakes, D., Vandaele, W., & Weisberg, H. I. Statistical methods for comparative studies: techniques for bias reduction. New York: John Wiley, 1980. A sophisticated but clearly written discussion of statistical aspects of research design for quasi-experiments. Chapter 6 addresses matching procedures.

Cook, T. D., & Campbell, D. T. The design and conduct of quasi-experiments and true experiments in field settings. In M. D. Dunnette (Ed.), Handbook of industrial and organizational research. New York: Rand-McNally, 1976. A strongly recommended but very technical presentation.

Weiss, C. H. Evaluation research: methods for assessing program effectiveness. Englewood Cliffs, N.J.: Prentice-Hall, 1972. A readable introduction to the design of evaluation research is found on pp. 60-91.

CHAPTER 4: THE CORE QUESTIONNAIRE

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CHAPTER 4: THE CORE QUESTIONNAIRE

PURPOSE

The Core Questionnaire (CQ) was the principal source of information in Project Feedback, a post-occupancy evaluation of Operation Breakthrough (OBT) housing. As its name suggests, the 218-item, 47-page questionnaire was the core of the interviewing effort.

Two objectives shaped the development of the CQ. The first objective was to obtain useful information for modifying the performance specifications that were the basis for the design, construction, and physical evaluation of OBT housing. The financial necessity of very limited data processing led to the abandonment of this objective. The second objective was to inform the Department of Housing and Urban Development (HUD) about user acceptance of OBT housing. The data processing focused on this objective.

DESCRIPTION OF THE QUESTIONNAIRE

Content

The CQ items are divided among three primary areas: (1) the building, (2) the site, and (3) demographic and control items. A general summary of the topics covered in each primary area, including related CQ items, follows. The CQ item numbers appear in parentheses.

The Building Component focused on the dwelling unit and, in multifamily units, the building itself. It covered the following topics:

1. Description of the dwelling unit (128-134, 215) and building (2),
2. Health and safety (39-44, 47-50, 126-127),
3. Room size (135),
4. Lighting (136-137, 156-161, 166),
5. Furnishability (138),
6. Storage space (134K, 139),
7. Temperature and humidity (140-142),
8. Room layout and arrangement (148-151),
9. Remodeling and conversion of rooms (143-147),
10. Maintenance, decoration, and repairs (152-155, 178-182),
11. Noise (167-169),
12. Privacy (170-171),
13. Security (79-82),
14. Innovations (189-191), and
15. Housing-related financial matters (174-177).

The Site Component focused on the housing development, including amenities, management, other occupants, and the community surrounding the development. It covered the following topics:

1. Recreation (20-29),
2. Services (30-36),
3. Parking (37-38),
4. Safety and health (45-46, 49-50),
5. Security (69-78, 83-84),
6. Social relations and neighbors (51-68),
7. Exterior lighting (162-166),
8. The site's location (in the surrounding community) (85-93),
9. Management (183-188),
10. Maintenance (17-19),
11. Appearance (15-16), and
12. The future of the site (202-203).

There were additional items on the residential environment as a whole. These covered reasons for moving to the site (14), relocation plans (199-200), most liked and most disliked aspects of the residential environment (192-193), and overall satisfaction with the dwelling and with the site (194-195).

The Control and Demographic Component dealt with the following topics:

1. The interview itself (3, 204, 205, 209-216, 218),
2. Respondent/household demography (5-7, 96-115, 201, 206),
3. Respondent/household member health (116-125, 207-208),
4. Total household membership (4),
5. Hours spent in the dwelling unit (94-95),
6. Residential mobility (172),
7. Types of tenancy (12-13),
8. Length of occupancy (10-11), and
9. Miscellaneous topics (1, 8, 9, 173, 196, 197, 217).

The CQ drew on a number of sources to establish specific topics that would address the performance approach to OBT housing and user acceptance of the housing:

1. The "Guide Criteria", discussed in chapter 1, including an analysis of waivers of performance specifications that were granted to housing system producers;
2. An analysis of innovations in OBT housing;
3. Results of tests on OBT housing, including prototype laboratory testing, prototype field testing, and onsite observation by knowledgeable engineers, architects, and behavioral scientists;
4. Reviews of provisions of the Minimum Property Standards (MPS) (the MPS is discussed in chapter 3);
5. Reviews of behavioral, architectural, and architectural-psychological studies of housing, sites, and communities;
6. Comments by the technical staff at the National Bureau of Standards (NBS) and at HUD; and
7. Visits by members of the research team or their representatives (e.g., contractors) to the sites in order to become familiar with the housing, the sites, and the occupants. These visits included in-depth discussions with occupants.

Format

Three levels of coding complexity are discussed in chapter 2. All three levels are found in the CQ.

The Research Instrument

A copy of the CQ ends this chapter. The original had several aids: pages 2-3 and 27-28 were facing; the back cover (p. 111) had the site boundaries for Q. 8; for certain items, cards with questions (Q. 5-7, 134A-N) or response categories (e.g., Q. 30-36, 83-93) were handed to respondents (cf. p. 158, comment on Q. 34). The CQ's own pagination is at the upper right and the chapter pagination at the lower margin of each page.

DESCRIPTION OF THE STUDY

Research Considerations

The NBS researchers asked themselves what research design was best suited to study occupant acceptance of OBT housing in use. Since OBT housing is industrialized and innovative, researchers considered it important to compare occupants' assessments of OBT housing with those of conventional housing. Introducing comparison groups (CG) of conventional dwellings would increase the probability of properly understanding the effect of industrialized construction on occupant acceptance of housing. In addition, using conventional housing gave the researchers and the reader a familiar framework for understanding OBT housing.

The decision to compare OBT housing with conventional housing in a field setting raised a number of problems. These problems and their solutions are presented in detail in chapter 3. In brief, the ideal comparison is one in which OBT and conventional housing groups differ only in those features that collectively define the OBT housing as "industrialized." However, in field studies there are likely to be additional differences between housing groups with which to contend. These differences can also foster plausible explanations of differences in opinions of OBT and CG housing occupants. To minimize the plausibility of the alternative explanations, researchers should apply the logic of the laboratory experiment to their field study as best they can, and then critically examine results with regard to any plausible, alternative explanation.

The question of which conventional housing to select for comparison masked two difficult problems, discussed in chapter 3: (1) absence of similar housing studies to guide researchers and (2) the inability of conventional housing to constitute a pure control group. Nevertheless, eight CG's were selected in five OBT cities. This sample of 551 conventional housing units, their occupants, and sites was matched with eight groups of OBT housing, consisting of 698 units, their occupants, and sites. The study of OBT occupants' attitudes, however, was not limited to interviews with the 698 households that were compared with conventional housing households. Rather, researchers decided to attempt to conduct interviews in all OBT units that were occupied at the time

interviewing began on January 1974. There were occupied OBT dwelling units on eight of nine OBT sites. The exception, the Jersey City, N.J. site, was still under construction. These eight sites represented 2,082 planned units of which 1,853 were occupied as of January 1974. Interviews with OBT and CG occupants were conducted during the same time period (January and February 1974).

There were two reasons for including all occupied OBT dwellings in the survey. First, researchers considered sampling plans that would have meant interviewing all but a few households in a particular building or in a particular area of a site. However, an experienced survey director had warned that the exclusion of a few potential respondents had been known to create suspicions among occupants. At a relatively low additional cost in time and dollars, all occupied dwellings could be approached and this problem avoided. Second, if followup studies were to be done, having information on all eligible occupied units would make it easier to solve certain problems associated with such followups.

Although interviewers went to all occupied OBT dwelling units and all selected CG units, there were obvious reasons for not expecting all households to be interviewed: refusals, language problems, an ill respondent, etc. In addition, resources limited the number of times a household could be approached for an interview. The planners allowed four in-person attempts (one initial visit and three callbacks) before a household was classified as a noninterview (a failure to be interviewed). Prior research suggested, and Project Feedback confirmed, that four attempts would result in interviews with 80 percent of the approached households. Of 1,853 OBT households approached, 1,481 interviews were obtained. The 698 OBT households that were compared with the conventional housing groups were part of the 1,481 interviewed OBT households. For each comparison housing group to reach or approximate a predetermined number of completed interviews, a replacement was added to that group for each noninterview. Replacements were selected from among the remaining, eligible but previously unselected units in that specific CG. A detailed description of the survey methods, including the substitution rules used by the field supervisor, appears in appendix 2.

Use

The CQ was administered in face-to-face interviews, approximately 75 minutes in duration, with 1,481 occupants of OBT housing and 551 conventional (comparison) housing occupants. Interviewing took place over a 5-1/2 week period during January and February 1974. The effort required 57 interviewers. At each site approximately 10 percent of all interviews were verified to make sure the interview had in fact taken place and that the answers on the interview reflected accurately the respondent's answers. During verification field supervisors found no instances of interview falsification or of an interviewer's inaccurate recording of answers.

It was necessary for interviewers to choose an eligible respondent within households. The CQ had some items which the researchers surmised might be answered better by male respondents (e.g., household finances, repairs), and other items which would be answered better by female respondents (e.g., maintenance of the dwelling, children's friends). Nevertheless, the researchers also

felt that, given the division of labor in most American (nuclear) families, the housewife/mother/wife would probably have spent more time in the dwelling unit unit and on site than her spouse and, as a result, would be closer to much of the information being sought. In a household of unrelated individuals (e.g., college students sharing an apartment), whoever had occupied the dwelling for the longest period of time probably would be closer to much of the information being sought. Based on these assumptions, the researchers established the following rules for the selection of respondents from within the eligible dwelling unit:

1. Only one person per household was to be interviewed.

2. The respondent must be at least 18 years old and a permanent member of the household.

3. For family households the first choice would be the wife or female head of the household.

4. For nonfamily households the first choice would be the person who had lived in the dwelling the longest.

Additional details appear in appendix 2.

Results: Opinions of OBT Occupants

Results of seven key areas will be highlighted. Four tables are included in this section to illustrate the distribution of responses to several key questions that appear without coding categories in the CQ and in its revision in chapter 5.[1]

1. Why did households choose OBT developments (CQ item 14)? The most important reasons were the relative cost of the dwelling unit (i.e., what is received for what is spent), dwelling unit size, and the location of the site relative to work and to universities attended by students who were OBT residents (see table 6). At the suburban sites in Macon and King County/Seattle, landscape and scenery were important considerations.

2. When asked what they most liked (CQ item 192) and most disliked (CQ item 193) about the then-current residential environment, respondents said they liked the onsite recreational facilities, the seclusion of their homes,

---

[1] The coding categories in tables 6-9 were developed from respondents' answers. Some problems arose, however, because too many coding categories had been developed and this limited usable variation. The recodes were only partially successful because some of the recodes were too broad. For these reasons, none of these coding categories have been included in the revised Core Questionnaire, in chapter 5. Nevertheless, the categories in tables 6-9 can provide guidance for code development in future studies for CQ items 14, 192, 193, and 203.

Table 6. CQ respondents' reasons for selecting their OBT site, ranked by site and for all sites.

Reasons	Housing Sites[a]								
	IND	KAL	MACON	MEM	STL	SAC	KING C'TY	SEA	ALL SITES
Dwelling unit Dwelling size	4 (7%)[b]				4 (9%)	2 (8%)	3 (6%)	2.5 (9%)	3 (6%)
Appliances							4 (6%)	6 (6%)	
Building and site Landscape/scenery			1 (13%)				2 (10%)		
Recreational facilities			4 (6%)					8 (5%)	
Building design and appearance		3 (5%)							
Site location[c] Work	5 (5%)			3 (11%)	3 (9%)	3 (7%)			
School	2 (14%)			1 (43%)	1 (12%)				2 (9%)
Transportation								6 (6%)	
General comments					5 (7%)				
Economic and social Cost of housing[d]	1 (27%)	1 (20%)	2 (12%)	2 (18%)	2 (9%)	1 (15%)	1 (21%)	1 (12%)	1 (16%)
Cost of utilities[d]								4 (7%)	
Resident groups[e]	3 (10%)								
Miscellaneous Dwelling was available							4 (6%)		6 (6%)
Place was recommended			2 (7%)				5 (5%)		
Other answers				3 (7%)					2.5 (9%)

[a] City abbreviations:

IND = Indianapolis MEM = Memphis SAC = Sacramento SEA = Seattle
KAL = Kalamazoo STL = St. Louis KING C'TY = King County

[b] In parentheses are the percentages of all responses at a site (or for all sites combined) for a given coding category ("reason").

[c] Site location is in reference to the location of place of employment ("work"), university/college ("school"), and transporation facilities. General comments lack such foci.

[d] This refers to the evaluation of costs (e.g., "It's expensive").

[e] Includes references to types of resident groups, nature of the social mix, etc.

dwelling unit size, and the characteristics ("caliber") of the residents (see table 7). The initial attractions, mentioned above in item 1, reappeared as most liked features. When asked what was disliked most, respondents most frequently said nothing was disliked (see the last row of table 8). However, when dislikes were mentioned, comments often focused on the building systems: quality of construction, appliances, and mechanical systems (e.g., heating, air conditioning equipment).

3. The dwelling (CQ item 194), physical aspects of the site (item 195), and the management (item 188) each generated relatively high levels of overall satisfaction at each OBT development. However, occupants tended to express satisfaction less often with management than with their housing or with physical aspects of their site.

4. There was a systematic relationship between respondents' age and overall satisfaction: elderly occupants tended to be "very well satisfied" with their dwellings, the site, and the site management. This tendency toward greater satisfaction among elderly respondents has been noted in other housing studies (Pastalan, personal communication).

5. Plans to relocate (CQ items 199 and 200) were especially strong at developments with large numbers of students. The primary reasons for moving out were independent of opinions about the residential environment. Rather, personal reasons (e.g., a job transfer, completing one's education, or getting married) were common at all eight developments. Planning not to relocate was especially strong at the suburban King County development. Here householders were also homeowners. However, renting was the most common form of tenancy for OBT occupants as a whole.

6. When asked how their development would be in 5 years (CQ items 202, 203), respondents' answers were about evenly split among the three response alternatives: the sites would become worse, stay the same, or become better. The reasons supporting opinions about the future tended to be interrelated and focused on management, the other residents, and the quality of construction of the buildings (see table 9). The nature of the interrelations of reasons were colored by the occupants' opinions about their developments' future. For example, those who felt their sites would become worse tended to criticize the quality of construction, the management's maintenance program, and the attitudes and actions of other residents with regard to housing and site maintenance. Overall satisfaction was strongly associated with respondents' opinions about a site's future. "Very well satisfied" respondents tended to be optimistic; dissatisfied respondents tended to be pessimistic.

7. A majority of respondents recognized that the housing at their developments was industrialized housing and knew that the Federal Government had financially supported its design and constructions (CQ items 196, 197, 198.)

Table 7. Features of the residential environment most frequently mentioned by CQ respondents as "liked," ranked by site and for all sites.

Features	Housing Sites[a]								
	IND	KAL	MACON	MEM	STL	SAC	KING C'TY	SEA	ALL SITES
Dwelling unit / Dwelling size	3 (9%)[b]				5 (5%)	4 (6%)		2 (11%)	5 (5%)
Dwelling layout								1 (12%)	
Appliances								2 (11%)	
Building and site / Landscape/scenery			1 (24%)				1 (18%)		3 (7%)
Recreational facilities	4 (8%)	2 (9%)	2 (9%)	3 (6%)		1 (9%)	3 (7%)		1 (8%)
Seclusion and privacy[c]		3 (6%)	3 (8%)			3 (6%)	1 (18%)	5 (5%)	4 (6%)
Site layout							4 (5%)		
Site location[d] / Work				2 (14%)	2 (8%)				
School	5 (7%)			1 (27%)	1 (10%)				
General comments	2 (10%)			4 (6%)				4 (9%)	
Management / Security					3 (7%)				
Economic and social / Cost of housing[e]	1 (12%)			5 (6%)					
Resident groups[f]				5 (6%)					
Characteristics of residents[g]	6 (6%)	1 (10%)	4 (7%)		4 (6%)	2 (8%)			2 (7%)

[a] City abbreviations:

IND = Indianapolis STL = St. Louis SEA = Seattle
KAL = Kalamazoo SAC = Sacramento
MEM = Memphis KING C'TY = King County

[b] In parentheses are the percentages of all responses at a site (or for all sites combined) for a given coding category ("feature").

[c] Includes references to quiet/noise, population density on site, presence or absence of privacy.

[d] Site location is in reference to the location of place of employment ("work"), university/college ("school"), and transportation facilities. General comments lack such foci.

[e] Refers to evaluations of costs (e.g., "It's expensive").

[f] Refers to types of resident groups, nature of social mix, etc.

[g] Includes references to friendliness, caring, aloofness, etc.

Table 8. Features of the residential environment most frequently mentioned by CQ respondents as "disliked," ranked by site and for all sites.

Features	Housing Sites[a]								
	IND	KAL	MACON	MEM	STL	SAC	KING C'TY	SEA	ALL SITES
Dwelling unit Dwelling appearance inside/outside								3 (7%)[b]	
Appliances				2 (9%)					
Mechanical systems					2 (7%)				
Use of own yards								3 (7%)	
Insulation and leaks[c]	7 (7%)								
Building and site Parking	2 (10%)	3 (7%)	1 (12%)						2 (6%)
Pets		2 (7%)							
Quality of building construction	3 (8%)							2 (9%)	
Management Management characteristics[d]	6 (7%)								
Maintenance by management	1 (12%)			3 (8%)					3 (5%)
Maintenance of grounds								6 (5%)	
Security					3 (5%)	2 (5%)		6 (5%)	
Services[e]	5 (8%)	4 (5%)		1 (15%)					
Economic and social Children and youth						2 (5%)		3 (7%)	
Residents' sense of responsibility							2 (6%)		
"Nothing" (as the response)	4 (8%)	1 (16%)	2 (10%)	4 (6%)	1 (17%)	1 (20%)	1 (17%)	1 (14%)	1 (14%)

[a] City abbreviations:

IND = Indianapolis
KAL = Kalamazoo
MEM = Memphis
STL = St. Louis
SAC = Sacramento
KING C'TY = King County
SEA = Seattle

[b] In parentheses are the percentages of all responses at a site (or for all sites combined) for a given coding category ("feature").

[c] Covers insulation, ease/difficulty of heating, leaks, drafts, etc.

[d] Includes references to friendliness, cooperativeness, competency, etc.

[e] Refers to services provided and adequacy of services.

Table 9. Reasons for opinions of CQ respondents about what their site will be like in 5 years, ranked by their opinion.

Reasons	What Will Site be Like in 5 Years?		
	Better	Same	Worse
Building and site			
Landscape/scenery	3 (5%)[a]		
Quality of building construction		6 (5%)	1 (22%)
Management			
Management characteristics[b]	2 (8%)	3 (10%)	5 (6%)
Maintenance by management	5 (6%)	2 (12%)	2 (14%)
Economic and social			
Type of homeowners moving in or out[c]		5 (6%)	6 (6%)
Permanence of residents[d]			4 (8%)
Caliber of people on site	6 (5%)	6 (5%)	
Resident interest in upkeep	1 (9%)	4 (7%)	3 (12%)
Other Reasons			
No changes/lack of changes		1 (17%)	

[a] In parentheses are the percentages of all responses ("reasons") from all respondents holding a particular opinion about what their site would be like in 5 years. For each opinion reasons are ranked.

[b] Includes references to friendliness, cooperativeness, competency, communicativeness, etc.

[c] Includes references to ethnic/racial groups, income, social class.

[d] Includes references to transiency, tenure (renting vs. owning), leases, etc.

Results: Comparison of Opinions of OBT and Conventional Housing Occupants

The comparison of opinions of these two groups focused on 11 CQ items. Slight but consistent trends favored OBT housing over conventional housing. For example, OBT housing was a more potent source of attraction to the residential environment, was mentioned more often as an example of what was most liked about the residential environment, and was mentioned less often as a reason for plans to move out. Not all differences favored OBT housing. Conventional housing was favored with respect to the quality of housing construction. Overall, the results indicated that OBT housing and the matched conventional housing were about equally well received by their respective occupants [Margulis, 1975].

By contrast to these results, "past studies of consumer opinion about industrialized housing have painted a rather gloomy picture: consumers do not accept it; this is the context within which the [results] should be evaluated" [Margulis, 1975, p. 26]. These past studies also suggest that knowledge of industrialized housing may be associated with its acceptance by consumers [Bernhardt, 1972]. Project Feedback appears to support this suggestion. The OBT occupants were knowledgable about industralized housing through their direct experiences with it. And these occupants were at least as satisifed with their housing as occupants of conventional housing were. It would appear that knowledge about industrialized housing is a key to its acceptance.

SUGGESTIONS ABOUT CONTENT AND USE

The key research instrument in the post-occupancy evaluation of OBT housing was the CQ. To increase the usefulness of this questionnaire to other researchers, NBS has prepared a revision of the CQ. It appears as chapter 5 and represents NBS suggestions about content and use.

Core Questionnaire

CODE NO.

feedback

OPERATION BREAKTHROUGH
PHASE II FEEDBACK
NATIONAL SURVEY OF OCCUPANTS IN BREAKTHROUGH
AND CONVENTIONAL HOUSING

SPONSORING AGENCY:	OFFICE OF POLICY DEVELOPMENT AND RESEARCH U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT WASHINGTON, D.C.
RESEARCH ORGANIZATION:	CENTER FOR BUILDING TECHNOLOGY NATIONAL BUREAU OF STANDARDS U.S. DEPARTMENT OF COMMERCE WASHINGTON, D.C.
FIELD ADMINISTRATION:	WESTAT, INC. 11600 NEBEL ROCKVILLE, MARYLAND

TELEPHONE:		
APPOINTMENT RECORD:	DATE	TIME
ADDRESS:	STREET NO.	
	STREET NAME	
	APT. NO.	
	CITY	
NAME OF DEVELOPMENT:		
INTERVIEWER NAME:		

FILL IN THE ADDRESS BELOW, BEFORE APPROACHING THE HOUSEHOLD:

1 Street No. _____

Street Name _____

Apt. No. _____

City _____

CIRCLE BUILDING TYPE:

2

1 Multi-family High Rise (multiple dwelling, four stories or more in height).

2 Multi-family Low Rise (multiple dwelling, not exceeding three stories in height).

3 Single Family Attached (single family dwelling, one or more stories in height, with walls on one or more sides being common or party walls with the adjacent dwelling).

4 Single Family Detached (single family dwelling, one or more stories in height, which is completely surrounded by open space).

INTRODUCTION:

Hello:

My name is _____.

I'd like to speak with (Mr./Mrs./Miss) _____.

Is (he/she) in?

PROCEED ONLY IF AN ADULT RESIDENT OF THE HOUSEHOLD PRESENTS (HIM/HER) SELF:

I represent _____, a survey research group. We are conducting a nation-wide survey for the U.S. Department of Housing and Urban Development. We need the opinions of residents, like yourself, about your home and about the community you are living in. We hope your answers will help to improve future housing. Since your household falls in our sample for _____ (CITY), I would like to ask you a few questions.

The things you tell me will be strictly confidential. No names will ever appear in reports and what we discuss will not be revealed to the people who manage this place. Of course, no one is required to participate, but we need your help! I think you will find this survey interesting. Thank you.

IF THE RESPONDENT AGREES TO BE INTERVIEWED, ENTER THE PRESENT TIME:

3 Time is now _____a.m./p.m.

BEGIN INTERVIEW:

Before we begin the interview, I'd like to ask you, how many persons altogether live here, related to you or not?

4 [ ] Total persons

READ ALL QUESTIONS FROM CARD "A":

RECORD ALL ANSWERS BELOW:

5-7	A	B	C	D	E		
	Relation to the Head of Household	Sex	Age	Highest Degree	Current College		
					Y 2	N 1	DK 8
					2	1	8
					2	1	8
					2	1	8
					2	1	8
					2	1	8
					2	1	8
					2	1	8
					2	1	8

CODING CATEGORIES FOR "RELATION TO THE HEAD OF HOUSEHOLD":

	ALONE	WITH HEAD	NO HEAD
"ALONE"	01		
"HEAD/RESPONDENT"		02	
"HEAD"		03	
"RESPONDENT"			10
"SPOUSE"		04	11
"CHILD"		05	12
"RELATIVE"		06	13
"NON-RELATIVE"		07	14
"NON-RELATIVE WITHOUT"		08	15

"TEMPORARY" ..... (IF NOT A PERMANENT HH MEMBER USE CODE 20)

8 Do you call this place [_____]? USE THE DEVELOPMENT NAME

2 Yes

1 No

When I refer to [_____], I mean the area between:
SEE BACK COVER

_____

_____

_____

_____

_____

9 Are we talking about the same thing when we use the name [_____]?

2 Yes

1 No

IF "NO", RECORD THE RESPONDENT'S COMMENTS:

_____

_____

_____

_____

_____

Okay, I'll note that but when I ask about [_____] I'll mean the area between: SEE BACK COVER

_____

_____

_____

_____

_____

10 When did you move into this (house/apartment)?

19_____ Year

_____ Month

IF ONE MONTH OR LESS TO ITEM 10, ASK 11:

11 How many weeks ago was that? ☐ 9

_____ Weeks

12 Do you own or rent your home? ☐ 10

1 Own
2 Rent
3 Other (SPECIFY)_____
8 Don't know

13 Is your (house/apartment) part of a cooperative or a condominium? ☐ 11

1 Cooperative
2 Condominium
3 Neither
8 Don't know

14 What is there about [_____] that led you to choose this as a place to live? ☐☐ 12 13 ☐☐ 14 15

_____ ☐☐ 16 17 ☐☐ 18 19

_____ ☐☐ 20 21 ☐☐ 22 23

_____

_____

15 Now that you're living here, what do you think of the way [_____] looks overall? Do you like the appearance very much, like it somewhat, dislike it somewhat, or dislike the appearance very much? ☐ 24

4 Like very much
3 Like somewhat
2 Dislike somewhat
1 Dislike very much

16 And what do you think about the appearance of the outside of your (house/building)? Overall, do you like its appearance very much, like it somewhat, dislike it somewhat, or dislike the appearance very much? ☐ 25

4 Like very much
3 Like somewhat
2 Dislike somewhat
1 Dislike very much

17 In general, what do you think about the way the people who live here maintain and keep up [_____]? Do you think it's excellent, good, average, below average, or poor? ☐ 26

5 Excellent
4 Good
3 Average
2 Below average
1 Poor

18 And what do you think about the way the people who manage this place maintain and keep up [_____]? Do you think it's excellent, good, average, below average, or poor? ☐ 27

5 Excellent
4 Good
3 Average
2 Below average
1 Poor

IF "BELOW AVERAGE", OR "POOR" TO ITEM 17 OR ITEM 18, ASK:

19 What is the problem? ☐☐ 32 33 ☐☐ 34 35

_____ ☐☐ 36 37 ☐☐ 38 39

_____ ☐☐ 40 41 ☐☐ 42 43

_____ ☐☐ 44 45 ☐☐ 46 47

_____ ☐☐ 48 49 ☐☐ 50 51

_____

20 When the weather is right, how often do you spend time anywhere out of doors? Is it very often, often, sometimes, seldom, or never:

5 Very often
4 Often
3 Sometimes
2 Seldom ..... (GO TO 22)
1 Never ..... (GO TO 22)

IF "VERY OFTEN", "OFTEN", OR "SOMETIMES" TO ITEM 20, ASK:

21 Do you spend most of this time in [_____] or away from [_____] or is the time split between the two?

1 Mostly on site (more on site than off)
2 Half on site, half off site
3 Mostly off site (more off site than on site)

IF "SOMETIMES", SELDOM", OR "NEVER" TO ITEM 20, ASK:

22 Is there any particular reason that you aren't out of doors more?

_____

_____

_____

_____

_____

23 How often do you spend time inside your (house/apartment) or on your porch or balcony, watching what's going on or just taking in the view? Is it very often, often, sometimes, seldom, or never?

5 Very often
4 Often
3 Sometimes
2 Seldom
1 Never

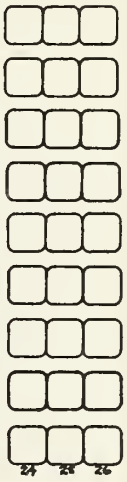
24 What recreational areas or facilities are provided as part of [_____] - things like a community room, playground, or swimming pool?

RECORD ANSWERS IN COLUMN "A":

AFTER LISTING EACH ANSWER IN COLUMN "A", ASK:

Are there any others?

A	B			
Recreational facility	Reg	Occas	Never	N/A
	3	2	1	9
	3	2	1	9
	3	2	1	9
	3	2	1	9
	3	2	1	9
	3	2	1	9
	3	2	1	9
	3	2	1	9
	3	2	1	9



25 Do (you/you or members of this household) use _____ (NAME EACH LISTED RECREATIONAL FACILITY, IN TURN) regularly, occasionally, or never?

RECORD ANSWERS IN COLUMN "B":

IF MORE THAN ONE OCCUPANT, ASK:

26 Is there anyone in this household for whom there are no suitable recreational facilities in [_____]?

2 Yes

1 No ..... (GO TO 28)

IF "YES" TO ITEM 26, ASK:

27 Who has the problem and what would be suitable for that person?

1 Age_____ Sex M F _____

_____

_____

_____

2 Age_____ Sex M F _____

_____

_____

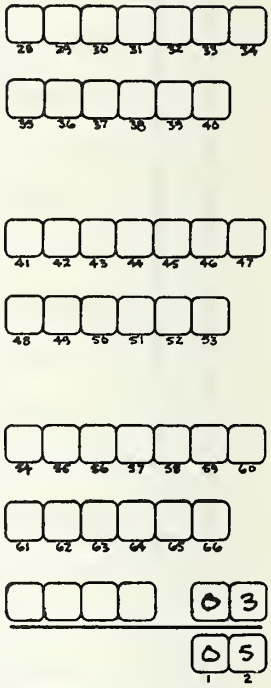
_____

3 Age_____ Sex M F _____

_____

_____

_____



IF HOUSEHOLD HAS CHILDREN UNDER 12, ASK 28 & 29

28 How do you feel about the out of doors places right near your home for your children under 12 to play in? Would you say these places are excellent, good, average, below average, or poor?

5 Excellent

4 Good

3 Average

2 Below average

1 Poor

29 Why do you say that?

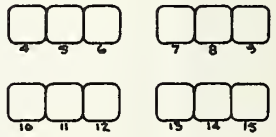
_____

_____

_____

_____

_____



Next, I would like to ask you about the services on card I that are provided in [_____].

READ ALL APPLICABLE QUESTIONS FOR EACH SERVICE BEFORE REPEATING EACH QUESTION FOR THE NEXT SERVICE LISTED:

A Let's take these one at a time. First (is/are) _____ (REPEAT THE SERVICE LISTED) provided in [_____]

IF "YES" TO A ASK B, C, AND D

IF "NO" OR "DON'T KNOW" TO A GO TO D

B Do you make use of this service?

RECORD ANSWERS IN COLUMN "B", AND THEN ASK:

C (Is/Are) the service(s) satisfactory?

RECORD ANSWERS IN COLUMN "C":

D (Is/Are)_____ (REPEAT THE SERVICE LISTED) needed here?

RECORD ANSWERS IN COLUMN "D":

		A			B		C		D		
	Service	Y	N	DK	Y	N	Y	N	Y	N	
30	Garbage & trash removal from your building	2	1	8	2	1	2	1	2	1	16 17 18 19
31	Snow & ice removal from public streets & walks	2	1	8	2	1	2	1	2	1	20 21 22 23
32	Recreation supervision, including a life guard	2	1	8	2	1	2	1	2	1	24 25 26 27
33	Services to the elderly	2	1	8	2	1	2	1	2	1	28 29 30 31
34	Bookmobile	2	1	8	2	1	2	1	2	1	
35	Day care	2	1	8	2	1	2	1	2	1	
36	Community laundry room	2	1	8	2	1	2	1	2	1	40 41 42 43

37 Do (you/any of you) ever have any parking problems in [_____]? ☐ 44

2 Yes
1 No ..... (GO TO 39)

IF "YES" TO ITEM 37, ASK:

38 What is the problem? ☐☐ 45 46 ☐☐ 47 48

_____

_____

_____

_____

_____

39 Now, about fire protection: Is there a smoke detector alarm anywhere in this (house/building)? ☐ 49

2 Yes
1 No ..... (GO TO 43)
8 Don't know ..... (GO TO 43)

IF "YES" TO ITEM 39, ASK:

40 Have you ever heard the smoke detector alarm go off? ☐ 50

2 Yes
1 No ..... (GO TO 43)
8 Don't know ..... (GO TO 43)

IF "YES" TO ITEM 40, ASK 41 AND 42:

41 How often? ☐☐ 51 52

☐ Number of times

AND THEN ASK:

42 Did the alarm go off because of a fire, was it a false alarm, or what? ☐ 53

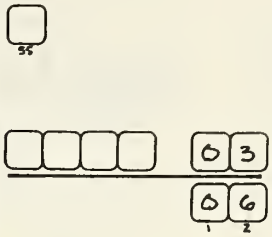
1 Fire
2 False Alarm
3 Fire and false alarm
4 Other (SPECIFY)_____
8 Don't know

43 Do you know of (any/any other) fires in this (house/building) since you've lived here? ☐ 54

2 Yes
1 No

44 Are there any alarm systems, other than the smoke detector alarm, like fire alarms or burglary alarms, in this (house/building)? What are they?

1 None
2 Fire Alarm
3 Burglary
4 Other (SPECIFY)_____



45 Now we'd like you to think about places here that could cause an accident for (you/any of you). Is there any place in [_____], outside, like walkways, steps, play areas, but not in buildings, that you consider hazardous?

2 Yes
1 No ..... (GO TO 47)

IF "YES" TO ITEM 45, ASK:

46 Would you please tell me where it is and why you think it is unsafe?

Where	Why Unsafe

47 Now, is there anything inside your home (IF MULTI-FAMILY, ADD: or this building) which you think is unsafe or could cause (you/any of you) to have an accident?

2 Yes
1 No ..... (GO TO 49)

IF "YES" TO ITEM 47, ASK:

48 Please tell me what it is and why you consider it unsafe?

What	Why Unsafe

49 Since living in [_____] have (you/any of you) had an accident, either inside or outside?

2 Yes

1 No ..... (GO TO 51)

IF "YES" TO ITEM 49, ASK:

50 Please tell me about the one or two most recent accidents.

1 Who_____

What_____

_____

Where_____

2 Who_____

What_____

_____

Where_____

51 Now let's talk about the people who live here. Where in [_____] do you most often spend time talking with other people? You can name any place inside or outside, but please don't include your own home.

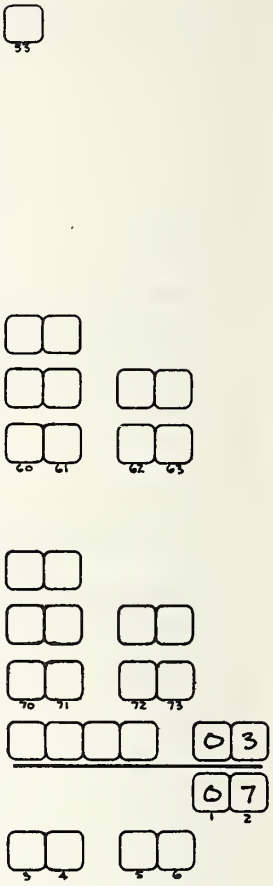
_____

_____

_____

_____

_____



52 Do you have personal friends here in [_____]? ☐7

2 Yes
1 No ..... (GO TO 63)

IF "YES" TO ITEM 52, AND:
IF SINGLE FAMILY, ASK:

		Yes	No	
53	Do any personal friends live next door?	2	1	☐8
54	Do any live in the other five or six buildings nearest to yours?	2	1	☐9
55	Do any live in other sections of [_____]?	2	1	☐10

(GO TO 61)

IF "YES" TO ITEM 52, AND:
IF MULTI-FAMILY, ASK:

56	Do any personal friends live next door?	2	1	☐11
57	Do any live elsewhere on this floor?	2	1	☐12
58	Do any live on other floors?	2	1	☐13
59	Do any live in the five or six buildings nearest to yours?	2	1	☐14
60	Do any live in other sections of [_____]?	2	1	☐15

IF "YES" TO ITEM 52, ASK:

61 Overall, were these your friends before you came here or after? ☐16

1 Before ..... (GO TO 63)
2 After
3 Other (SPECIFY) ..... (GO TO 63) _____

_____

_____

IF "AFTER" TO ITEM 61, ASK:

62 Where did you meet? ☐☐17 18

_____ ☐☐19 20

_____ ☐☐21 22

_____

_____

_____

FOR RESPONDENTS WITH CHILDREN 17 YEARS OLD OR UNDER, ASK 63 AND 64:

63 Have your children made friends in [_____] since you moved here? ☐ 23

2 Yes
1 No

AND THEN ASK:

64 Overall, do you think the kids in [_____] are a bad influence, more bad than good, more good than bad, or a good influence on your children? ☐ 24

1 A bad influence
2 More bad than good
3 More good than bad
4 A good influence

HAND CARD "I" TO RESPONDENT:

Below are some words and phrases which we would like you to use to describe the people living in (IF MULTI-FAMILY, ADD: your building or) buildings you can see from the entrance to this one - that is, the five or six buildings nearest to yours around here.

For example, if you think your neighbors are noisy, call out the number right next to the word "noisy." If you think they're quiet, call out the number next to the work "quiet." If you think they're somewhere in between, call out the number you think belongs.

ASK EACH ITEM IN THE ORDER IT APPEARS ON CARD "I":

What number would you give your neighbors on _____?

REPEAT BOTH DESCRIPTIONS FOR EACH ITEM.

65	Noisy	1	2	3	4	5	Quiet
66	Friendly	5	4	3	2	1	Unfriendly
67	Standoffish	5	4	3	2	1	Pushy
68	People I don't fit in with	1	2	3	4	5	People I do fit in with

69 Is there any individual or family or group, either inside or outside of [_____], that you feel threatened by? I don't want you to identify them, but just tell me if you feel threatened by anyone around here.

2 Yes
1 No ..... (GO TO 74)
9 Refusal; No answer ..... (GO TO 74)

IF "YES" TO ITEM 69, ASK 70 THRU 73:

Do any of the people who threaten you - again, I don't want you to identify them

70 Do they live in the area near here, in the five or six buildings nearest to this one?

2 Yes
1 No
8 Don't know

71 Do they live elsewhere in [_____]?

2 Yes
1 No
8 Don't know

72 Do they live in the areas surrounding [_____] - that is, about a ten minute walk or a half mile away?

2 Yes
1 No
8 Don't know

73 Do they come from an area more than a half mile away from [_____]?

2 Yes
1 No
8 Don't know

74 Have (you/any of you) actually had threats to yourselves or to your property since moving to [_____]? You can include such things as car theft, burglary, property vandalism, threats of assault, and the like.

2 Yes
1 No ..... (GO TO 79)

IF "YES" TO ITEM 74, ASK 75 THRU 78:

75 Would you mind telling me what happened and where it happened? It isn't necessary to name any names, only to tell me what happened and where.

_____

_____

_____

_____

_____

IF "YES" TO ITEM 74, ASK:

76 Was the incident reported to the police?

2 Yes
1 No
8 Don't know

AND THEN ASK:

77 Was the incident reported to [_____]'s management?

2 Yes
1 No
8 Don't know

IF "YES" TO ITEM 74, ASK:

78 What steps could be taken - by home builders, police, management, or residents - in a place like [_____] to prevent such incidents from happening?

_____

_____

_____

_____

_____

Now I'd like you to think about the locks, doors, and windows that came with this (apartment/house) and their adequacy for preventing someone from breaking in.

		Yes	No	Don't Know	
79	Are the locks on the entry doors adequate?	2	1	8	☐
80	Are these doors themselves adequate?	2	1	8	☐
81	Are the window locks adequate?	2	1	8	☐
82	Are the windows themselves adequate?	2	1	8	☐ 60

HAND RESPONDENT CARD "II":

83 Now I'd like to know which one statement on this card best describes your feelings about security when you are in [_____] - your feelings of personal safety and protection of property from criminal acts. Please read aloud both the number and the statement that best describes your feelings. ☐ 61

1 I never worry about security. I feel safe walking around this place any time of the day or night.

2 I generally don't worry about security but I'm cautious. I take some precautions to protect myself and my property.

3 I worry about myself and my property quite a bit, so I take a number of extra precautions to protect myself and my property.

4 I don't feel safe here at all.

84 And which statement on the card best describes your feelings about security in the areas immediately outside of or surrounding [_____] - that is, about a half mile or a ten minute walk from here? Again, I'd like you to read both the number and statement that best describes your feelings. ☐ 62

1 I never worry about security. I feel safe walking around this place any time of the day or night.

2 I generally don't worry about security but I'm cautious. I take some precautions to protect myself and my property.

3 I worry about myself and my property quite a bit, so I take a number of extra precautions to protect myself and my property.

4 I don't feel safe here at all.

☐☐☐☐ 03
08
1 2

HAND CARD "III" TO RESPONDENT:

To change topics - now I'd like to get your thoughts about how convenient the location of [_____] is to where you work and shop and so forth.

ASK BOTH QUESTIONS FOR AN ITEM AND RECORD THE ANSWERS IN COLUMNS "A" AND "B" BEFORE GOING ON TO THE NEXT ITEM:

a Is it convenient for you personally to get to _____ (REPEAT THE ITEM LISTED) - when you go there?

RECORD ANSWER IN COLUMN "A":

IF "YES" OR "NO" IN COLUMN "A" ASK:

b What kind of transportation do you typically use to get to _____? (REPEAT THE ITEM LISTED)

RECORD ANSWER IN COLUMN "B":

		A			B					
		Y	N	NA	C	W	B	PT	Other	
85	Where you work	2	1	9	1	2	3	4	_____	
86	Grocery shopping	2	1	9	1	2	3	4	_____	
87	School	2	1	9	1	2	3	4	_____	
88	The movies	2	1	9	1	2	3	4	_____	
89	Your doctor	2	1	9	1	2	3	4	_____	
90	Your church or synagogue	2	1	9	1	2	3	4	_____	13 14
91	The friends or relatives you visit most often	2	1	9	1	2	3	4	_____	15 16

IN COLUMN B:

C = PRIVATE CAR

W = WALKING

B = BICYCLING

PT = PUBLIC TRANSPORTATION

AGAIN REFER TO CARD "III":

92 For which item on the card is it most important to be conveniently located? ☐ 17

1 Where you work
2 Grocery shopping
3 School
4 The movies
5 Your doctor
6 Your church or synagogue
7 The friends or relatives that you visit most often

REFER AGAIN TO CARD "III":

93 Which is the <u>next</u> most important item to you, with regard to convenient location? ☐ 18

1 Where you work
2 Grocery shopping
3 School
4 The movies
5 Your doctor
6 Your church or synagogue
7 The friends or relatives that you visit most often

94 For whatever reasons - personal or related to work - during which hours do you typically sleep on <u>weekdays</u>?

From _____ a.m. p.m. ☐☐☐☐

To _____ a.m. p.m. ☐☐☐☐ 23 24 25 26

95 How much time do you spend inside your (house/apartment) on a typical <u>weekday</u>? Don't include the time you sleep. ☐☐ 27 28

☐ Hours

Before we go on to the next part of the interview, I'd like to ask you a few personal questions. First, about what you do:

READ ALL ITEMS TO ALL RESPONDENTS:

		Yes	No	
96	Are you presently employed full time?	2	1	☐
97	Are you currently receiving retirement benefits from a former employer or from the government?	2	1	☐ 30
98	Are you now looking for a new full-time job?	2	1	☐
99	Do you have a part-time job?	2	1	☐
100	Are you currently going to school?	2	1	☐
101	Are you responsible for keeping house here?	2	1	☐ 34

IF "YES" TO ITEM 96 OR 98, ASK 102 THRU 105:

102 What kind of work do you do? That is, what is your job called? ☐☐☐ 35 36 37

SPECIFY:_____ ☐☐ 38 39

_____

IF RESPONSE TO ITEM 102 IS NOT SPECIFIC, ASK:

103 What do you actually do in that job? Tell me, what are some of the main duties?

_____

_____

_____

_____

_____

IF "YES" TO ITEM 96 OR 98, ASK:

104 What kind of place do you work for?

SPECIFY:_____

IF RESPONSE TO ITEM 104 IS NOT SPECIFIC, ASK:

105 What do they (make/do)?

_____

_____

_____

_____

_____

IF THERE IS A HEAD OF HOUSEHOLD OTHER THAN RESPONDENT, ASK 106-111; OR GO TO 116:

I'd like to know what the head of this household does.

READ ALL ITEMS TO THE RESPONDENT:

		Yes	No	
106	Is (he/she) presently employed full time?	2	1	☐
107	Is (he/she) currently receiving retirement benefits from a former employer or from the government?	2	1	☐ 41
108	Is (he/she) looking for a new full-time job?	2	1	☐
109	Does (he/she) have a part-time job?	2	1	☐
110	Is (he/she) currently going to school?	2	1	☐
111	Is (he/she) responsible for keeping house here	2	1	☐ 45

IF "YES" TO ITEM 106 OR 108, ASK 112 THRU 115:

112 What kind of work does (he/she) do? That is, what is (his/her) job called? ☐☐☐ 46 47 48

SPECIFY:_____ ☐☐ 49 50

_____

IF RESPONSE TO ITEM 112 IS NOT SPECIFIC, ASK:

113 What does (he/she) actually do in that job? Tell me, what are some of the main duties?

_____

_____

_____

_____

_____

IF "YES" TO ITEM 106 OR 108, ASK:

114 What kind of place does (he/she) work for?

SPECIFY:_____

_____

IF RESPONSE TO ITEM 114 IS NOT SPECIFIC, ASK 115:

115 What do they (make/do)?

_____

_____

_____

_____

_____

116 Do you have difficulty getting around inside or outside your home or have difficulty doing daily chores because of a permanent disability or physical handicap? [ ] 51

2 Yes

1 No

117 Does anyone else living here have such difficulties because of a permanent disability or physical handicap? [ ] 52

2 Yes

1 No

IF "YES" TO ITEM 117, ASK 118 AND 119:

118 How old is that person? [ ][ ] 53 54

_____ Age in years

AND THEN ASK:

119 Is that a (man or woman/boy or girl)? [ ] 55

1 Male

2 Female

FOR EACH DISABLED OCCUPANT, ASK 120 THROUGH 125. IF RESPONDENT IS DISABLED, START WITH (HIM/HER). COMPLETE ITEMS 120 THROUGH 125 FOR THE FIRST DISABLED PERSON BEFORE REPEATING EACH ITEM FOR THE SECOND PERSON:

120 How often (do you/does (he/she)) need to stay in the house because of the disability? Is it never, sometimes, or most of the time. ☐☐ 56 57

1)		2)	
3	Never	3	Never
2	Sometimes	2	Sometimes
1	Most of the time	1	Most of the time

121 How often (do you/does (he/she)) need the help of <u>another person</u> in getting around inside or outside of your home? Is it never, sometimes, or most of the time? ☐☐ 58 59

1)		2)	
3	Never	3	Never
2	Sometimes	2	Sometimes
1	Most of the time	1	Most of the time

122 How often (do you/does (he/she)) need the help of some <u>special aid</u>, such as a cane or wheelchair, in getting around inside or outside your home? Is it never, sometimes, or most of the time? ☐☐ 60 61

1)		2)	
3	Never	3	Never
2	Sometimes	2	Sometimes
1	Most of the time	1	Most of the time

123 Can (you/(he/see)) see well enough with either eye to see ordinary newsprint with glasses? ☐☐ 62 63

1)		2)	
2	Yes	2	Yes
1	No	1	No

124 Can (you/(he/she)) see well enough to step down stairs or off a curb? ☐☐ 64 65

1)		2)	
2	Yes	2	Yes
1	No	1	No

125 Can (you/he/she)) see moving objects such as cars moving or people walking? ☐☐ 66 67

1)		2)	
2	Yes	2	Yes
1	No	1	No

126 Now, about your home, is there anything about the interior of this (house/apartment) - the way it's laid out or built - that makes it difficult for (you/any of you) to move around or to use any part of your home?

2 Yes
1 No ..... (GO TO 128)

IF "YES" TO ITEM 126, ASK:

127 What is the problem?

_____
_____
_____
_____
_____

128 Is this a split level or multi-level (house/apartment)?

2 Yes
1 No

129 How many (floors/levels) do you have?

1 One
2 Two
3 Three
4 Four
5 Other (SPECIFY)_____

IF SINGLE FAMILY, ASK 130 AND 131:

130 Did you include a basement?

2 Yes
1 No

THEN ASK:

131 Did you include an attic?

2 Yes
1 No

132 Are there any steps or stairs in <u>this</u> (house/apartment) other than those connecting floors or levels? ☐ 7

2 Yes

1 No

IF MULTI-FAMILY ASK:

133 What (floor/floors) is this apartment on in this building? ☐☐ 8 9

The _____ floor and the _____ floor and ☐☐ 10 11

the _____ floor. ☐☐ 12 13

CARD B

I'd like to know which rooms were included in your home by its (builder/developer). For the moment, I'm interested in what each room is now being used for, but rather what it was called when you (bought/rented) this placed. I'll go through these with you one by one.

ASK THE FOLLOWING AND RECORD AT THE BOTTOM OF THE TABLE:

(L) How many full baths (sink, toilet and tub or shower) do you have? (IF MORE THAN ONE CIRCLE "2" IN "D".)
(M) How many half baths (only sink and toilet) do you have?
(N) How many separate bedrooms do you have? (IF MORE THAN ONE CIRCLE "2" IN COL. "F".)

ASK THE FOLLOWING:

(A) Does your (house/apt.) have a living room?
(B) Does your (house/apt.) have a kitchen?

IF MORE THAN ONE FULL BATHROOM, ASK:

(C) Is the bathroom that you use most frequently for bathing and personal hygiene a master bathroom? That is, is it accessible only through the master bedroom?
(E) Is your bedroom - the one that you regularly sleep in - a master bedroom? That is, is it the largest bedroom in the (house/apartment)?
(G) Do you have a separate dining room?
(H) Do you have a separate family or recreation room?
(I) Do you have a separate den or study?
(J) Do you have a separate balcony or porch? If so, which?
(K) Do you have a private storage bin or shed provided for your own use, outside this (house/apartment)?

I'd like to ask you about these rooms and places in your home. We'll take them one at a time. What I want is your opinion:

135 through 136 (ASK ONE COLUMN AT A TIME FOR INCLUDED ROOMS ONLY)

135 Is your _____(ROOM NAME) large enough?

136 Does (the/your) _____(ROOM NAME) have sufficient built-in lighting?

137 Does (the/your) _____ get sufficient natural light?

138 Is it easy to arrange furniture in (the/your) _____?

139 Is there enough built-in storage space in (the/your) _____?

By "built-in" I mean that it came with the (house/apartment) - it wasn't added by any of you.

140 Last winter, during the cold weather, could you get (the/your) _____ as warm as you wanted it throughout the room?

141 Last summer, during the hot weather, could you get (the/your) _____ as cool as you wanted it throughout the room?

142 Did you have any trouble with the humidity in (the/your) _____ - that is, did it every seem either too humid or too dry?

143 Have you made any major or expensive changes to (the/your) _____ such as removing a wall, or adding a closet, a window, or a fixture. Please don't include new furniture or appliances.

READ ALL QUESTIONS FROM CARD "B":

RECORD ALL ANSWERS BELOW:

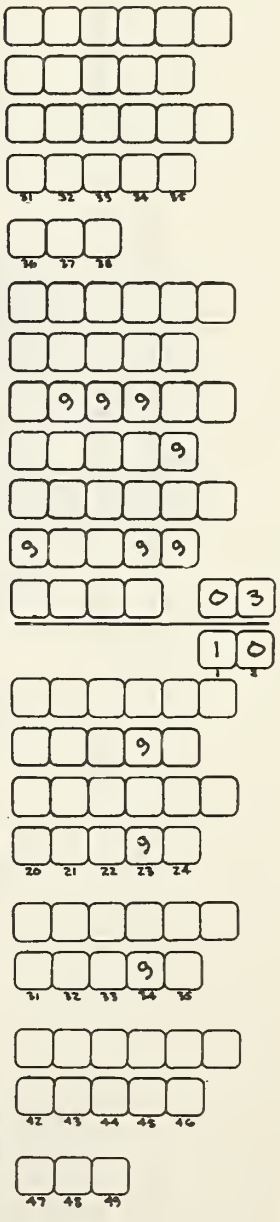
			A	B	C	D	E	F	G	H	I	J	K
			Liv	Kit	Own Bth	Oth Bth	Own Bed	Oth Bed	Din	Fam	Den	Bal	Sto
134	Included	Y	2	2	Mas	2	Mas	2	2	2	2	Bal	2
		N	1	1		1		1	1	1	1	Por	1
135	Size	Y	2	2	2	2	2	2	2	2	2	2	2
		N	1	1	1	1	1	1	1	1	1	1	1
136	Built-in Lighting	Y		2	2	2							
		N		1	1	1							
137	Natural Lighting	NA	9	9	9	9	9	9	9	9	9	9	9
		Y	2	2	2	2	2	2	2	2	2	2	2
		N	1	1	1	1	1	1	1	1	1	1	1
138	Furnishing	Y	2				2	2	2	2	2	2	
		N	1				1	1	1	1	1	1	
139	Storage	NA	9	9	9	9	9	9		9	9		
		Y	2	2	2	2	2	2		2	2		
		N	1	1	1	1	1	1		1	1		
140	Heating	NA	9	9	9	9	9	9	9	9	9		9
		Y	2	2	2	2	2	2	2	2	2		2
		N	1	1	1	1	1	1	1	1	1		1
141	Cooling	NA	9	9	9	9	9	9	9	9	9		9
		Y	2	2	2	2	2	2	2	2	2		2
		N	1	1	1	1	1	1	1	1	1		1
142	Humidity	H	3	3	3	3	3	3	3	3	3		3
		D	2	2	2	2	2	2	2	2	2		2
		N	1	1	1	1	1	1	1	1	1		1
143	Remodeling	Y	2	2	2	2	2	2	2	2	2	2	2
		N	1	1	1	1	1	1	1	1	1	1	1

(L) FULL BATHS ☐

(M) HALF BATHS ☐

(N) BEDROOMS ☐

ENTER THE NUMBER OF BEDROOMS AT TOP OF THE NEXT PAGE.



ENTER THE NUMBER OF BEDROOMS ☐

IF ONE OR MORE BEDROOMS, ASK:

144 Could you list any rooms, other than bedrooms, which are used regularly by (you/any of you) as places to sleep? ☐☐ ☐☐

SPECIFY: _____

_____

_____

_____

_____

145 I'm also interested in rooms that have been converted from one purpose to another, like a den used as a dining room or a bedroom used as an office. If there are rooms like this in your home, would you please tell me the original name of the room and its present use?

1) ORIGINAL: _____ ☐☐ ☐☐
NOW: _____

2) ORIGINAL: _____ ☐☐ ☐☐
NOW: _____

3) ORIGINAL: _____ ☐☐ ☐☐
NOW: _____

4) ORIGINAL: _____ ☐☐ ☐☐
NOW: _____

☐☐☐☐ 03
11

Earlier I asked you about major or expensive changes in some of the rooms in your (house/apartment). Now, I'd like you to think about the biggest single physical change you've made since moving here, other than new furniture or appliances, such as changes we may have discussed before (IF SINGLE FAMILY, ASK: or changes that you have made to the outside of your home).

146 I'd like to know why this particular change was made? Was it to correct something that was wrong or to add something you wanted to have? [ ] 3

1 To correct something wrong
2 To add something you wanted to have
3 Both to correct and to add
4 Other (SPECIFY)_____
5 No changes made

IF ANY CHANGE IS REPORTED IN ITEM 146, ASK:

147 What was this change and where is it? [ ] [ ] [ ] 4 5 6 7 8 9 10 / 11 12 13 14 15 16 17 / 18 19 20 21 22 23 24

_____
_____
_____
_____
_____

148 One final question about your bathroom - the one that you use most frequently for bathing and personal hygiene. What do you think of the layout and arrangement of the fixtures provided, like the sink, mirror, medicine cabinet, toilet, and tub or shower stall? Do you think it's excellent, good, average, below average, or poor? [ ] 25

5 Excellent
4 Good
3 Average
2 Below average
1 Poor

149 What is there about this bathroom that makes you feel this way? [ ] [ ] [ ] [ ] 26 27 28 29 / 30 31 32 33 / 34 35 36 37 / 38 39 40 41

_____
_____
_____
_____
_____

150 Given how (you use/this household uses) the kitchen: do you think the layout of the kitchen, of the cabinets and countertops, and the arrangement of the appliances, the sink, and the rest, is excellent, good, average, below average, or poor?

5 Excellent
4 Good
3 Average
2 Below average
1 Poor

42

151 What is there about the kitchen that makes you feel this way?

43 44 45 46

47 48 49 50

51 52 53 54

55 56 57 58

152 Compared with your experiences before moving here, do you think the routine cleaning of walls, floors, and windows, of sinks, toilets, and bathtubs or shower stalls is easier than it was before, as easy as it was before, as difficult as it was before, or more difficult than it was before?

59

4 Easier than it was before
3 As easy as it was before
2 As difficult as it was before
1 More difficult than it was before

153 Why do you say this?

60 61

62 63

64 65

03

1 2

154 When repairing or decorating your home, did the construction material - for example, what the walls are made of - present any problems or require new techniques for handling these jobs?

2 Yes
1 No
8 Don't know
9 No repairs or decorations

IF "YES" TO ITEM 154, ASK:

155 Could you please explain?

IF MULTI-FAMILY, ASK 156 THRU 161:

Earlier, I asked about the lighting inside your home. Now I'd like you to think about the lighting in the public areas of this building. Do you think the lighting is sufficient throughout the:

		Yes	No	D.K.	N.A.	
156	Entryway or lobby?	2	1	8	9	☐
157	Hallways?	2	1	8	9	☐
158	Elevators?	2	1	8	9	☐
159	Stairways?	2	1	8	9	☐
160	Community room?	2	1	8	9	☐
161	Laundry room?	2	1	8	9	☐ 24

ASK ALL RESPONDENTS 162 THRU 165:

Do you think there is adequate lighting in [_____]:

		Yes	No	D.K.	
162	along the pathways, sidewalks and streets?	2	1	8	☐
163	in the area around building entrances?	2	1	8	☐
164	in outdoor recreation areas?	2	1	8	☐
165	in outdoor public parking areas?	2	1	8	☐ 28

IF "NO" TO ANY ITEM 156 THROUGH 165, ASK:

166 If this is causing any problems, would you please describe them?

_____

_____

_____

_____

_____

☐☐☐ 29 30 31 ☐☐☐ 32 33 34

☐☐☐ 35 36 37 ☐☐☐ 38 39 40

☐☐☐ 41 42 43 ☐☐☐ 44 45 46

167 We haven't spoken about noise and whether it's a problem for (you/any of you) here. Is there anything <u>inside</u> this (house/apartment) that is making noise that bothers (you/any of you)?

47 46 45

_____

_____

_____

_____

_____

168 Next, I'd like to know about bothersome noises that originate <u>outside</u> this (house/apartment) - those that come in through the walls or floors or ceiling or doors or windows when your doors and windows are closed. Where do these noises come from and who or what seems to be making the noise?

50 51

52 53

54 55

56 57

58 59

CIRCLE ALL THAT APPLY.

01 From other dwelling units <u>inside</u> the building: sounds of people or pets.

02 From other dwelling units <u>inside</u> the building: sounds of mechanical systems, plumbing, appliances, floors, doors, windows or other fixtures.

03 From elevators, trash chutes, and laundry rooms.

04 From hallways or stairways inside the <u>building</u>.

05 Other sounds <u>inside</u> the building.

06 From people or pets in <u>another</u> building.

07 From people or pets out of doors.

08 From traffic on or off the site (automobiles, trucks, motorcycles, busses, trains, planes).

09 Other sounds <u>outside</u> the building.

10 No noise.

_____

_____

_____

_____

_____

IF ONE OR MORE NOISES ARE CITED IN ITEM 167 OR 168, ASK 169:

169 Why are you bothered by the noises you told me about? [60 61]

_____

_____

_____

_____

_____

IF MORE THAN ONE OCCUPANT, ASK 170 AND 171:

170 Can you find a place in this (house/apartment) to be alone and to be let alone when you need to be? Would you say that you can find such a place all of the time, most of the time, sometimes, or never? [62]

4 All of the time
3 Most of the time
2 Sometimes
1 Never

171 When you need to be off by yourself, and you really want to be let alone, where do you go? [63 64 65] [66 67 68] [69 70 71] [03] [13]

DESCRIBE: _____

_____

_____

_____

_____

172 To change topics again, how many times have you moved in the past 5 years? [3 4]

[ ] Number of moves

173 Is this (family/household) the first to occupy this (house/apartment)? [5]

2 Yes
1 No
8 Don't know

IF HOME IS OWNED, ASK:

174 What was the purchase price of this home?

$_____

8 Don't know

Last month, how much did it cost (you/this household) to live here? That is, how much was spent on:

RECORD TO THE NEAREST $5.00:

175 ☐ rent or mortgage payments, including property and assessment taxes?

176 ☐ all utilities, other than the telephone? (check box if included with the rent).

177 ☐ maintenance fees and other fees, but excluding rent and mortgage payments?

178 If you need repair work inside your home, who is responsible for doing it or having it done? [22]

CIRCLE ALL THAT APPLY.

1 Management; manager
2 Homeowner's Association ..... (GO TO 183)
3 Builder; developer
4 Occupant ..... (GO TO 183)
5 Other (SPECIFY) ..... (GO TO 183)

IF "BUILDER/DEVELOPER" OR "MANAGEMENT" TO ITEM 178, ASK 179:

179 About how many times in the last month have you made a request for repairs of your home? [23][24]

[ ] Number of times ..... (IF "0," GO TO 183)

IF ONE OR MORE, ASK:

180 Has any of this work been completed? [25]

2 Yes
1 No ..... (GO TO 183)

IF "YES" TO ITEM 180, ASK 181 AND 182:

181 Overall, how satisfied are you with the repair work? Are you very well satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied? [26]

4 Very well satisfied
3 Somewhat satisfied
2 Somewhat dissatisfied
1 Very dissatisfied

AND THEN ASK:

182 Why do you feel this way? [27][28]

_____

_____

_____

_____

_____

183 Who is responsible for the maintenance and upkeep of [_____] itself and for making and enforcing rules here?

29

CIRCLE ALL THAT APPLY:

1 Management; Manager

2 Homeowner's Association

3 Other (SPECIFY)_____

_____

9 No one

8 Don't know/ No answer

184 Do you think there are any unfair regulations here at [_____]?

2 Yes
1 No ..... (GO TO 186)
8 Don't know ..... (GO TO 186)

IF "YES" TO ITEM 184, ASK:

185 Tell me about the one that bothers you most and how it has affected you.

_____

_____

_____

_____

_____

186 Is anything permitted here that you don't approve of?

2 Yes
1 No ..... (GO TO 188)
8 Don't know ..... (GO TO 188)

IF "YES" TO ITEM 186, ASK:

187 Which of these bothers you the most and how has it affected you?

_____

_____

_____

_____

_____

188 Think about the way in which _____ (RESPONSIBLE GROUP) manages [_____]. Overall, are you very well satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?

1 Very well satisfied
2 Somewhat satisfied
3 Somewhat dissatisfied
4 Very dissatisfied

189 Have you noticed anything innovative, different, or new about the way the inside or the outside of your home was built or about the materials used in building your home?

2 Yes

1 No ..... (GO TO 192)

IF "YES" TO ITEM 189, ASK 190 AND 191:

190 Of the things you've noticed, which one or two do you think are the most innovative, different, or new? Would you please describe them?

1 _____

_____

_____

_____

_____

2 _____

_____

_____

_____

_____

FOR EACH EXAMPLE GIVEN IN ITEM 190, ASK:

191 Do you find that _____ is an improvement?

	Yes	No
Example 1:	2	1
Example 2:	2	1

192 Now that you've been living here, what are the two or three things you like most about [_____]?

1 _____

_____

_____

2 _____

_____

_____

3 _____

_____

193 And what are the two or three things you dislike most about [_____]?

15 16 17 18

19 20 21 22

23 24 25 26

1 _____

_____

_____

2 _____

_____

3 _____

_____

194 When you think about your experiences here, overall, are you satisfied or dissatisfied with your (house/apartment) as a place to live? Would you say that you're very well satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?

27

4 Very well satisfied
3 Somewhat satisfied
2 Somewhat dissatisfied
1 Very dissatisfied

195 Overall, are you satisfied or dissatisfied with the housing site, that is with the grounds, the community facilities, play areas, parking, and the like. As a place to live, are you very well satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with [_____]?

28

4 Very well satisfied
3 Somewhat satisfied
2 Somewhat dissatisfied
1 Very dissatisfied

196 Was the design and construction of [_____] financially supported by the Federal Government?

29

2 Yes
1 No ..... (GO TO 198)
8 Don't know ..... (GO TO 198)

IF "YES" TO ITEM 196, ASK:

197 Could you tell me which Federal Agency this was?

30

SPECIFY: _____

_____

198 Is most or all of the housing in [_____] industrialized housing? That is, was it manufactured using assembly line techniques in a factory located some distance away from here? ☐ 31

2 Yes
1 No

199 How likely are you to move from this place in the next two or three years? Are you certain to move, probably will move, or do you plan to stay here? ☐ 32

1 Certain to move
2 Probably will move
3 Plan to stay here ..... (GO TO 201)
4 Can't say; undecided ..... (GO TO 201)

IF "CERTAIN TO MOVE" OR "PROBABLY WILL MOVE" TO ITEM 199, ASK:

200 Why are you thinking of moving? ☐☐ 33 34 ☐☐ 35 36

_____

_____

_____

_____

_____

HAND RESPONDENT CARD "IV":

201 What was the total family income during the past 12 months? This includes wages and salaries, net income from a business or farm, pensions, dividents, interest, rent, and any other money income received by members of this (family/household). Could you please tell me in which of the groups the total family income falls? Just the number on the left of the card is enough. ☐☐ 37 38

01 Under $2,000
02 Under $4,000
03 Under $6,000
04 Under $8,000
05 Under $10,000
06 Under $12,000
07 Under $15,000
08 Under $20,000
09 $20,000 or over
98 Don't know
99 No answer - refuses to answer

202 **Finally, what do you think [_____] will be like in five years? Will it be a better place to live than it is now, about the same, or not as good?**

3 Better

2 About the same

1 Not as good

39

203 **Why do you say that? What do you think could be done to make it better?**

Why?_____ 40 41 42 43

_____ 44 45 46 47

_____

How better?_____ 48 49 50 51

_____ 52 53 54 55

_____

_____

I want to thank you very much for answering these questions for us. Your cooperation has been most helpful.

END OF INTERVIEW.

ENTER THE PRESENT TIME:

204 Time is now _____a.m./p.m. 56 57 58 59

ENTER TODAY'S DATE:

205 Today's date: _____ 60 61

62 63

ALL REMAINING ITEMS TO BE COMPLETED BY THE INTERVIEWER:

64 65

206 CIRCLE RACE OF RESPONDENT:

1 White
2 Black
3 Other (SPECIFY)_____

207 What is your impression of the respondent's hearing ability? Would you say:

1 the respondent's hearing was good?
2 the respondent had a little trouble hearing?
3 the respondent had a lot of trouble hearing?
4 Other (SPECIFY)_____

208 Did you observe any devices which would suggest a vision or hearing defect or a physical disability?

1 Eyeglasses (belonging to the respondent)
2 Hearing aid (on the respondent)
3 Crutches, walker, or wheelchair
4 Other (SPECIFY)_____

209 In general, what was the respondent's attitude during the interview? Was it:

1 friendly and eager?
2 cooperative, but not particularly eager?
3 indifferent and bored?
4 hostile?
5 No answer

210 Was the respondent's understanding of the interview good, fair, or poor?

1 Good
2 Fair
3 Poor

211 Did anyone beside the respondent participate in the interview, such as answering questions or discussion answers?

2 Yes

1 No

212 IF "YES", SPECIFY WHICH ITEMS OR SECTIONS OF THE INTERVIEW WERE AFFECTED:

_____

_____

_____

_____

_____

A large number of obvious factors can affect a respondent's answers, yet there may be no questions about these in the interview schedule. Please tell us what you know about four of these factors.

213 First, was anything happening during the interview, either inside or outside the dwelling unit (other than those noted above), which might have affected the interview? A constant barrage of noise is an example.

12

03

15

1 No

2 Yes (SPECIFY)_____

_____

214 Second, did any extreme or unusual conditions exist either before or during the day of the interview? Examples include severe or unusual weather or climatic conditions; a personal reaction to a job loss, injury, death, illness, or the like; strikes by employees of utilities, services, or the like, that serve the household.

3 4 5 6

7 8 9 10

1 No

2 Yes (SPECIFY)_____

_____

215 Third, is there anything about the dwelling unit or outside places belonging to the household that was distinctive or which is informative insofar as answers to the interview are concerned? You can include reference to housekeeping or maintanance, repair problems, decorations, furnishings, and the like.

11 12 13 14

15 16 17 18

1 No

2 Yes (SPECIFY)_____

_____

216 Fourth, is there anything about the household members, including the respondent, that can help us to understand the respondent's answers to the interview questions? Examples could include life style, temporary occupants, pets, or the like.

19

1 No

2 Yes (SPECIFY)_____

_____

IF OPERATION BREAKTHROUGH, CIRCLE PRODUCER. IF NON-BREAKTHROUGH CIRCLE 70.

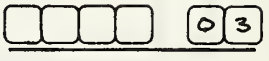
217

1 Alcoa
2 Boise Cascade
3 Building Systems
4 Camci
5 Christiana Western
6 Descon/Concordia
7 FCE-Dillon
8 General Electric
9 Hercoform
10 Home Building
11 Levitt
12 Material Systems
13 National Homes
14 Pantek
15 Pemtom
16 Republic Steel
17 Rouse-Wates
18 Sholz
19 Shelly
20 Townland
21 TRW Systems
70 Not Breakthrough
98 Don't know producer

IF INCOMPLETE OR NO INTERVIEW, CIRCLE THE REASON AFTER THE LAST CALLBACK:

218

2 Nobody ever home
3 No primary adult present
4 Non-cooperation (unwilling to participate at all)
5 Terminated interview
6 Other (SPECIFY)_____



BREAKTHROUGH BOUNDARIES

(USED FOR QUESTIONS 8 AND 9)

City: Indianapolis
Site: Operation BREAKTHROUGH
Site Name: Park Lafayette
Boundaries:
(N) Open fields; Noble School
(S) 21st Street
(E) Tibbs Avenue
(W) Open field

City: Kalamazoo
Site: Operation BREAKTHROUGH
Site Name: New Horizon Village
Boundaries:
(N) Spring Valley Park
(S) Gull Road
(E) A subdivision of single family housing
(W) Cherrywood Trace Apartments

City: King County (Seattle)
Site: Operation BREAKTHROUGH
Site Name: Lendemain
Boundaries:
(N) Marked hiking trail (sits on top of Tolp River Pipeline)
(S) A park area called Greenbelt
(E) 124th Avenue, N.E.
(W) Two adjoining subdivisions of single family housing called Queens Gate and High Woodlands

City: Macon
Site: Operation BREAKTHROUGH
Site Name: Crystal Lake
Boundaries:
(N) The yards belonging to older, single family housing
(S) Chambers Road
(E) Wooded area
(W) Wooded area

City: Memphis
Site: Operation BREAKTHROUGH
Site Name: Edison Park
Boundaries:
(N) Jefferson Avenue
(S) Madison Avenue
(E) Hamlin Street
(W) Danny Thomas Boulevard

City: Sacramento
Site: Operation BREAKTHROUGH
Site Name: Greenfair
Boundaries:
(N) Subdivision of single family housing called Elmhurst
(S) Broadway
(E) Fairgrounds Drive
(W) Fairgrounds Drive

City: St. Louis
Site: Operation BREAKTHROUGH
Site Name: LaClede East
Boundaries:
(N) Olive Street
(S) Market Street
(E) Beaumont Street
(W) Ewing Avenue

City: St. Louis
Site: Operation BREAKTHROUGH
Site Name: LaClede West
Boundaries:
(N) Olive Street
(S) LaClede Avenue
(E) Compton Avenue
(W) Channing Avenue

City: Seattle (city)
Site: Operation BREAKTHROUGH
Site Name: Bryant Manor
Boundaries:
(N) East Yesler Way
(S) Where future city park will be; Seattle Community College
(E) Temporary city park
(W) 18th Avenue

CHAPTER 5: THE REVISED CORE QUESTIONNAIRE

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CHAPTER 5: THE REVISED CORE QUESTIONNAIRE

PURPOSE

The revised Core Questionnaire (rev. CQ) is a revision of the Core Questionnaire (CQ) presented in chapter 4. Based on experience with the CQ in the study of Operation Breakthrough (OBT) housing, the rev. CQ is a 100-item, 36-page questionnaire for post-occupancy housing evaluations. The revision has removed all material linked exclusively to OBT.

The rev. CQ was prepared because a housing survey questionnaire is an efficient and effective way of obtaining resident opinion. Therefore, a field-tested, available housing questionnaire that covers a wide range of topics applicable to the residential environment is a source upon which others can build for their housing evaluation studies. Using this source of questionnaire items should reduce costs and time in developing a questionnaire for similar post-occupancy evaluations.

DESCRIPTION OF THE QUESTIONNAIRE

Content

A comparison of the CQ and the rev. CQ reveals the following general likenesses and differences:

1. Both cover the same topics, and the items in both questionnaires are, in most instances, similar in focus and intent if not in their actual wording. An index to the topics in the rev. CQ appears in table 10. An item-by-item comparison of the CQ and the rev. CQ is available, on request, from the author.

2. The rev. CQ incorporates information originally in the CQ's interviewer's and coder's manuals, such as instructions for use and coding categories. This change makes the rev. CQ a more useful research instrument.

3. Both questionnaires are applicable to a range of housing types and to housing sites designed or designated as planned unit developments.

4. The time for administering either questionnaire could be as long as 75 minutes, with 60 minutes for questions about the residential environment and 15 minutes for background information about the respondent and his/her household. However, actual administration time will typically be shorter since only occasional respondents will be asked every question.

There is one limitation to the rev. CQ. Although the rev. CQ and the CQ have housing-type-specific items, neither has development-specific items. The study of OBT housing indicates that development-general items have limitations. If researchers can become familiar with the developments they plan to evaluate prior to questionnaire development, they should seriously consider including

Table 10. Index to the rev. CQ.

Question	Contents	Deck/ Column(s)	Page[a]
1-7A	Basic respondent data	1/7-24	1-3
7B	Other head of household data	1/25-37	4
8	Data on other occupants	1/38-68	5
9	Data on site definition	1/69-70	5
10-11	Length and type of tenancy	2/7-12	6
12	Reasons for selecting development	2/13-23	6
13-14	Site appearance and maintenance	2/24-29	7
15-21	General use of site	2/30-65	8-10
22	Site services	2/66-79	11
23	Household income	2/80	11
24-29	Fires and accidents	2/7-18	12-13
30-34	Friends and neighbors	3/19-36	13-15
35-38	Security (personal or property)	3/37-58	16-17
39-40	Site location	3/59-79	18
41-42	Hours at home	4/7-14	19
43-44	Physical disabilities	4/15-31	19
45-52	Interiors: general	4/32-44	20
53	Interior rooms I (living room, kitchen, bath)	4/45-76	21
53	Interior rooms II (other rooms)	5/7-46	22
54-60	Interiors: miscellaneous	5/47-71	23-25
61-63	Housekeeping and upkeep	5/72-80	25
64-66	Lighting of the site	6/7-22	26
67-69	Noise	6/23-44	27-28
70	Privacy	6/45-46	28
71-72	First occupancy and residential mobility	6/47-48	28
73-75	Cost of occupancy	6/49-57	29
76-78	Maintenance and repairs	6/58-70	29-30
79-82	Rules and regulations	6/71-80	30-31
		7/7-9	
83	Housing innovations	7/10-16	31
84	The area around the development	7/17	31
85-88	Respondent's overall impressions	7/18-25	32
89	Plans to move	7/26-41	33
90	Prediction of the development's future	7/42-43	34
91-100	Questions for the interviewer	7/44-58	34-36

[a] Refers to the internal pagination of the rev. CQ.

supplementary development-specific items in their version of the rev. CQ. These additions should increase the researchers' understanding of the developments being studied and their differences.

Format

The rev. CQ has 100 items of which 90 are addressed to the respondent (items 1-90) and 10 are addressed to the interviewer (items 91-100). Like the CQ, the rev. CQ contains items of all levels of coding complexity. The difference in the number of items in the CQ (218 items) and the rev. CQ (100 items) is, in large part, a result of format changes rather than of reduction in scope. Items that were separately numbered in the CQ were often combined into one numbered item on the rev. CQ. For example, rev. CQ item 6 includes the material covered by CQ items 96, 98, 99, and 102-105.

The Research Instrument

The rev. CQ appears at the end of this chapter. The rev. CQ pagination is enclosed in hyphens and is just above the chapter pagination.

SUGGESTIONS ABOUT CONTENT AND USE

Several topics that can affect the content and use of the rev. CQ deserve comment. Advice on deleting items from the rev. CQ and on preparing the rev. CQ for keypunching appear in this section. A lengthy section presenting background information and instructions on the use of rev. CQ items directly follows the rev. CQ at the end of this chapter. Readers should be able to answer other questions about the rev. CQ and its use by carefully studying the rev. CQ and this report.

Deleting and Adding Items

Use of the rev. CQ for other studies might require dropping certain items. For example, a study may not be concerned with residential security--at least to the extent it is covered in the rev. CQ. These questions and the material linked to them may be deleted from the questionnaire without harming the questionnaire's usefulness. However, new materials should not be added without expert advice.

Preparation for Data Entry

The rev. CQ was designed so that edited, coded forms would be ready for keypunching on 80-column cards because keypunching was popular at that time. However, it is also suitable for key-to-disk entry. The rev. CQ's design minimizes the transfer of data, thereby providing fewer opportunities for introducing errors into the data.

The instructions for the keypunch operators appear in the right hand margin of the questionnaire. These marginal entries indicate that the rev. CQ requires seven keypunch cards. These seven cards correspond to the seven

decks indicated in the upper right hand margin of each page. For example, on page 1 of the rev. CQ the note reads "BEGIN DK 1," and on page 26 it reads "BEGIN DK 6." These notes refer to cards 1 and 6, respectively.

For each keypunch card the first column should contain a number indicating the portion of the rev. CQ covered by the card; that is, the first column should contain the deck number corresponding to that card. The next five columns (columns 2-6) of each card are reserved for an identification (ID) code for each respondent. This code number should be entered on page 1 of the rev. CQ. A code number allows the computer to relate each of the seven cards in a person's file. This is necessary in order to allow a person's response to an item on one card to be compared with the same person's response to items on other cards in his/her file.

Standard instructions for keypunch operators are used. The symbol "?" in the margin of the rev. CQ means the information to be keypunched is not in the margin but appears within the black border. The symbol ":" means the information is in the margin itself. There are boxes within the border and in the margins for recording the code numbers for the applicable coding categories. It is assumed that the codes will be numerical and not alphabetical. Only one digit goes into each box; a two-digit code would require two boxes, and so on.

The rev. CQ does not require alphabetical codes. However, the CQ did for the respondent's address (see page 1, columns 3-16 of the CQ). The quotation marks in columns 3 and 16 of page 1 of the CQ are conventions required by the SPSS/ Statistical Package for the Social Sciences [Nie et al., 1975] to indicate that alphabetical information might appear in that field (series of columns). If researchers plan to use alphabetical codes, they should check their data processing software system to determine whether and under what conditions it accepts alphabetical information.

PREPARATION OF THE QUESTIONNAIRE MASTER COPY

If researchers plan to use the rev. CQ and want to have their version look like the version in this chapter, they should follow the instructions in this section. These instructions produced the master copy of the rev. CQ from which the copy in this chapter was prepared.

The questionnaire master copy is prepared on Xerox XRD 11-1/8 in by 14-1/3 in bond paper. It is typed on an IBM Selectric II typewriter, with the paper guide set at zero and the left-hand margin set at 20 (ten pitch) or 24 (12 pitch). Courier typefaces are used throughout. Ten pitch is used occasionally for emphasis (as on the two "cards," for example), but essentially the material is in 12 pitch. Space-and-a-half between lines is frequently used to fit in lists of coded responses. Horizontal half-spaces are also used to center column titles and response codes. All interviewer script appears in Courier Italic, along with a few items that must be inserted for any specific application, such as the name of the sponsoring agency.

Borders are inset on the master copy, 1 in at the top and left, 1-1/2 in at the bottom and right. On a few of the pages, the bottom border is slightly

lowered to accommodate copy. All keypunch instructions are outside the border; the question numbers are set to the left of the margin stop. Code boxes are inserted within a 3/8 in square template. A 30 mm diameter is used for the corners.

The master copy is reduced to fit on a standard 8-1/2 in by 11 in page, using a Xerox 7000 reducing copier (Mode 3 setting).

Please Do Not Write In This Column.

Feedback on Housing

SPONSORING AGENCY: [*INSERT NAME OF SPONSORING ORGANIZATION HERE*]

RESEARCH ORGANIZATION: [*MAY BE INSERTED, IF APPLICABLE*]

FIELD ADMINISTRATION: [*MAY BE INSERTED, IF APPLICABLE*]

BEGIN DK 1:

1/1

INTERVIEWER'S APPOINTMENT RECORD Code Number: ☐☐☐☐☐ 2-6/?

Name of Development_____

Location of Dwelling Unit: Street Address_____

Apartment or Unit Number, If Applicable_____

City and State_____

Telephone Number of Dwelling Unit_____

RECORD OF CALLS

DATE	TIME	RESULTS

Interviewer's Name_____

Respondent's Name_____

Before Approaching Household, Circle Building Type: 7/?

Multi-Family High Rise,
Four Stories or More in Height..... 1

Multi-Family Low Rise,
Three Stories or Less in Height..... 2

Single Family Attached House, One or
More Walls in Common With Adjacent Dwellings. 3

Single Family Detached House,
Completely Surrounded by Open Space..... 4

INTERVIEW BEGINS ON THE NEXT PAGE

INTRODUCTION (proceed only if an ADULT RESIDENT is present)

Hello. I'm with _____; my name is _____.

We're doing a study of housing in this area and we'd like to get the opinions of residents, like yourself, about their homes and the neighborhood. The information will be used to improve future housing. I'd like to take a little of your time and ask you some questions.

(If respondent agrees to be interviewed, enter the PRESENT TIME:_____AM/PM

If respondent cannot be interviewed at this time, attempt to fix a more convenient appointment, and note outcome of this call on the cover page.)

Before we begin, I should tell you that your answers will be strictly confidential. The only people who see them will be the researchers who analyze the information we get. What we learn will be used to write a report on what the people around here think of their housing. No individuals will be identified in any of our reports.

So to begin--

1. *How many people live here?* (PROBE: exclude temporary visitors, non-resident family members like students living away from home, etc.; include all children, people who are temporarily away from home, roomers, and any other residents whether related to the respondent or not. Include the respondent in the total.)

Total Persons ☐☐ 8-9/?

2. *I need to know a few basic things about each of you. Let's start with yourself: can you tell me how old you are?* (ALSO CODE RESPONDENT'S SEX)

Respondent's Age ☐☐ 10-11/?

Respondent's Sex: Male... 1 12/?

Female.. 2

3. *Did you ever get a high school diploma?* (IF YES, ASK:) *A college degree?* (IF YES, ASK:) *What degree?* (PROBE: circle one code for highest educational attainment.)

Did Not Complete High School..... 1 13/?

High School Diploma Only..... 2

Some College, No Degree..... 3

B.A. or Equivalent..... 4

Graduate Studies, No Degree..... 5

M.A., Ph.D., L.L.B., M.D. or Other Graduate Degree or More..... 6

4. *Are you currently going to school?* (IF YES, ASK:) *Full time or part time?*

Not Presently Enrolled..... 1 14/?

Enrolled, Part Time..... 2

Enrolled, Full Time..... 3

GO ON TO THE NEXT PAGE

(DK 1)

5. *Are you currently receiving retirement benefits from a former employer or from the government?*

Yes..... 1 — 15/?

No..... 2

6. *Are you presently employed, or looking for a job?*

NO: Neither Employed nor Looking.. 1 — 16/?

YES: Presently Employed..... 2

YES: Not Presently Employed, But Currently Looking for Work.... 3

IF YES: ASK ITEMS A, B, AND C

A. *Is this full time or part time work?* ("Full time" is thirty hours a week or more, from one job or any combination of part-time jobs.)

Full Time..... 1 — 17/?

Part Time..... 2

B. *What kind of work do you do?* (PROBE: if response is not specific, inquire into main duties, etc.)

WRITE IN JOB TITLE (sales clerk, teacher, machinist, etc.) — 18-20/:

_____ ☐☐☐

_____

C. *And what kind of a place or business do you work for?* (PROBE: What do they make or sell, etc.) — 21-22/: ☐☐

WRITE IN TYPE OF EMPLOYER (department store, public school system, automobile factory, etc.)

_____

_____

7. *And are you the head of this household?* (Circle one. If respondent lives alone, code this item "Yes.")

Yes (GO TO QUESTION 8)..... 1 — 23/?

No (ASK ITEM A)..... 2

A. IF NO: *Who is the head of the household?* (Circle one)

Respondent's Spouse..... 1 — 24/?

Respondent's Parent..... 2

Respondent's Child..... 3

Respondent's Other Relative... 4

Non-Relative..... 5

IF THE RESPONDENT DESIGNATES ANY OTHER PERSON AS THE HEAD OF THE HOUSEHOLD, ASK ITEM B ON THE FOLLOWING PAGE.

No Particular Person is the Head of This Household (You may ignore Item B and go directly to Question 8)..... 6

(DK 1)

Question 7, continued

B. ASK ONLY IF RESPONDENT HAS DESIGNATED ANOTHER RESIDENT AS THE HEAD OF THE HOUSEHOLD:

I. *How old is that person?* (If respondent does not know Head's age, code boxes "99." Also enter code for Head's sex.)

Head's Age ☐☐ 25-26/?

Head's Sex: Male... 1 27/?
Female.. 2

II. *And how far did this person go in school?* (Circle one for highest attainment, as before)

Did Not Complete High School.. 1 28/?
High School Diploma Only..... 2
Some College, No Degree..... 3
B.A. or Equivalent..... 4
Graduate Studies, No Degree... 5
M.A., Ph.D., L.L.B., M.D. or Other Graduate Degree or More. 6
Don't Know..... 9

III. *Is this person currently going to school?* (IF YES:) *Full time or part time?*

Not Presently Enrolled..... 1 29/?
Enrolled, Part Time..... 2
Enrolled, Full Time..... 3
Don't Know..... 9

IV. *Does this person currently receive retirement benefits from a former employer or from the government?*

Yes..... 1 30/?
No..... 2
Don't Know 9

V. *Is this person currently employed, or looking for a job?*

NO: Neither Employed nor Looking.. 1 31/?
YES: Presently Employed..... 2
YES: Not Presently Employed, But Currently Looking for Work.... 3
Don't Know..... 9

IF YES: ASK ITEMS (a), (b), (c)

(a) *Is this full time or part time work?*

Full Time..... 1 32/?
Part Time..... 2
Don't Know..... 9

(b) *What kind of work does this person do?* (PROBE)

33-35/:

WRITE IN JOB TITLE_____ ☐☐☐

_____

(c) *And what kind of a place or business do they work for?* (PROBE) 36-37/:

WRITE IN TYPE OF EMPLOYER_____ ☐☐

_____

GO ON TO THE NEXT PAGE

8. ASK IF THERE ARE ANY OTHER PERSONS, INCLUDING CHILDREN, LIVING IN THIS HOUSEHOLD IN ADDITION TO THE RESPONDENT AND A DESIGNATED HEAD:

Now let's take up the rest of the people who live here. How many of them are--

		Number:	
A.	*--children two years of age or less?*	CHILDREN UNDER TWO YEARS: ☐	38/?
B.	*--children aged three through twelve? Which are boys and which are girls?*	BOYS, 3-12 YEARS: ☐	39/?
		GIRLS, 3-12 YEARS: ☐	40/?
C.	*--children aged thirteen through eighteen? Which are boys? Girls?*	TEENAGE BOYS: ☐	41/?
		TEENAGE GIRLS: ☐	42/?
D.	*--other persons, aged nineteen or more?* (Enter number AND complete one of the lines provided below for EACH such person)	OTHER ADULTS: ☐	43/?

ENTER DETAILED INFORMATION FOR OTHER ADULTS (OVER 18 YEARS OLD)

Person	Offspring or Other Relative of Either Respondent or Head		Sex		Age	Principal Status (Choose One)			
	Yes	No	Male	Female		Student	Employed	Other	
(4)	1	2	1	2	☐☐	1	2	3	44-48/?
(2)	1	2	1	2	☐☐	1	2	3	49-53/?
(3)	1	2	1	2	☐☐	1	2	3	54-58/?
(4)	1	2	1	2	☐☐	1	2	3	59-63/?
(5)	1	2	1	2	☐☐	1	2	3	64-68/?

INTERVIEWER: check to make sure all persons living in dwelling unit (Question No. 1) have been accounted for, either as respondent, as a separately designated head of household, or in Question 8 above.

9. (ASK OF EVERY RESPONDENT) *Do you call this place [INSERT DEVELOPMENT NAME]?* Yes..... 1 69/?

No..... 2

When I refer to [INSERT DEVELOPMENT NAME], I mean the area between... [ADD SPECIFIC DESCRIPTION OF DEVELOPMENT BOUNDARIES, ACCORDING TO APPLICATION OF SURVEY. Example: "The area bounded by Jones Road on the West, the park on the North and East, and Highway 30 on the South."]

Are we talking about the same thing? Yes..... 1 70/?

No..... 2

IF NO: Record any comments the respondent may have and continue interview.

_____

_____

GO ON TO THE NEXT PAGE

BEGIN DK 2: 1/2 2-6/ID

10. *When did you move into this place?* (Code MONTH and YEAR)

Month ☐☐ Year ☐☐ 7-10/?

IF RESPONDENT MOVED IN WITHIN THE LAST THIRTY DAYS, ASK:

How many weeks ago was that? Weeks ☐ 11/?

11. *Is your home part of a condominium or cooperative, or are you the sole owner, or do you rent this place?* (IF RENTAL:) *Do you rent from the owner, or is this a sublet? Do you have an option to buy?* 12/?

Sublet from Another Renter..... 1
Rent from Owner..... 2
Rent With Option to Buy..... 3
Own (not Cooperative/Condominium).. 4
Own (Cooperative)..... 5
Own (Condominium)..... 6
Other Arrangement (SPECIFY)..... 7

_____

Don't Know..... 9

12. *What is there about [INSERT DEVELOPMENT NAME] that led you to choose this as a place to live?* (PROBE: circle one code for each reason listed)

	MAJOR FACTOR: Stressed by Respondent	MINOR FACTOR: Also Mentioned by Respondent	NOT A FACTOR: Not Mentioned by Respondent	
Cost Reasons	1	2	3	13/?
Size of the Unit	1	2	3	14/?
Location With Respect to Work	1	2	3	15/?
Location With Respect to Schools	1	2	3	16/?
Landscaping and/or Scenery	1	2	3	17/?
Recreation Facilities (in Development)	1	2	3	18/?
Kitchen or Other Major Appliances	1	2	3	19/?
Recommendation From Other Persons	1	2	3	20/?
Availability of Unit	1	2	3	21/?

OTHER REASONS: SPECIFY BELOW

OTHER MAJOR FACTORS: _____ 22/: ☐

OTHER MINOR FACTORS: _____ 23/: ☐

GO ON TO THE NEXT PAGE

13. (ASK BOTH A AND B.)

A. *Now that you're living here, what do you think of the way [INSERT DEVELOPMENT NAME] looks overall? Do you like the appearance very much, like it somewhat, dislike it somewhat, or dislike it very much?* (Code ONE response in the line below)

B. *And what do you think about the appearance of the outside of your own building? Overall, do you like it very much, like it somewhat, dislike it somewhat, or dislike it very much?* (Code ONE response in second line below)

	Like Very Much	Like Somewhat	Dislike Somewhat	Dislike Very Much	
A. Appearance of Development	1	2	3	4	24/?
B. Appearance of Own Building	1	2	3	4	25/?

14. (ASK BOTH A AND B.)

A. *In general, what do you think about the way the people who live here maintain and keep up their homes and the area around their homes? Do you think it's excellent, good, average, below average, or poor?* (Circle ONE response in Line A below)

B. *And what do you think of the way the people who manage this place maintain and keep up (INSERT DEVELOPMENT NAME)? Do you think it's excellent, good, average, below average, or poor?* (Circle ONE response in Line B)

	Excellent	Good	Average	Below Average	Poor	
A. People's Maintenance of Own Home	1	2	3	4	5	26/?
B. Management's Maintenance of Development	1	2	3	4	5	27/?

IF RESPONDENT CHOOSES EITHER "BELOW AVERAGE" OR "POOR" TO EITHER QUESTION, ASK:

What is the problem? (RECORD RESPONSES BELOW)

Problems With People's Maintenance of Own Homes_____ 28/: ☐

_____

_____

Problems With Management's Maintenance of Development_____ 29/: ☐

_____

_____

GO ON TO THE NEXT PAGE

(DK 2)

15. *When the weather is right, how often do you spend time outdoors on the grounds of [INSERT DEVELOPMENT NAME]? Is it very often, often, sometimes, seldom, or never?*

Very Often.. 1 — 30/?
Often..... 2
Sometimes... 3
Seldom..... 4
Never..... 5

IF SOMETIMES, SELDOM, OR NEVER, ASK:

A. *Is there any particular reason why you don't go outside around here more often?* (PROBE: circle one code for each reason listed)

	MAJOR FACTOR: Stressed by Respondent	MINOR FACTOR: Also Mentioned By Respondent	NOT A FACTOR: Not Mentioned By Respondent	
Illness or Physical Health	1	2	3	31/?
Ascribed to Appearance--The Way It Looks, Smells; Also Noise	1	2	3	32/?
Threats to Safety, Including Lack Of Repairs, Ongoing Construction on Site, Inadequate Maintenance (Such as Slippery Sidewalks in the Winter)	1	2	3	33/?
Threats to Personal Security (Fears of Criminal Activities)	1	2	3	34/?
Social Reasons: Activities/Friends Are in Own Building or Off Site Altogether	1	2	3	35/?
Outdoor Areas Pre-empted by Others: Respondent Stays Away (Such as Children)	1	2	3	36/?
Ascribed to Design of the Site--What is There and Where It is	1	2	3	37/?
Legitimate Competing Activity--Job, School, Housework, Having to Study	1	2	3	38/?

IF RESPONDENT CITES OTHER REASONS, INCLUDING "NO SPECIAL REASON," ENTER HERE: 39/:

_____

16. *How often do you spend time inside or on your porch or balcony, watching what's going on or just taking in the view? Is it very often, often, sometimes, seldom, or never?*

Very Often.. 1 — 40/?
Often..... 2
Sometimes... 3
Seldom..... 4
Never..... 5

GO ON TO THE NEXT PAGE

(DK 2)

17. *Do you or other members of this household use any of the following facilities here at [INSERT DEVELOPMENT NAME]?* (IF YES, ASK:) *Is this regular or occasional use?*

(INTERVIEWER NOTE: ASK ONLY ABOUT FACILITIES ACTUALLY AVAILABLE AT THIS DEVELOPMENT. FINAL INTERVIEW SCHEDULE FOR SPECIFIC APPLICATIONS CAN ELIMINATE FACILITIES NOT PROVIDED, OR MAY SUBSTITUTE OTHERS NOT IN THE LIST BELOW.)

	Respondent or Others Use Facility:				Not Applicable (e.g. Tot Lot But No Children)	Respondent Did Not Know About This Facility	
	Often	Occas-ionally	Never	Don't Know (About Use)			
Swimming Pool	1	2	3	7	8	9	41/?
Shuffleboard	1	2	3	7	8	9	42/?
Community Center/ Club House	1	2	3	7	8	9	43/?
Tot Lots/Playgrounds	1	2	3	7	8	9	44/?
Courts--Basketball, Tennis, Etc.	1	2	3	7	8	9	45/?
Outside Furniture: Benches, Picnic Tables	1	2	3	7	8	9	46/?
Community Room	1	2	3	7	8	9	47/?
Paths or Trails	1	2	3	7	8	9	48/?
Open Areas: Grassy Areas, Woodland, Parks, Lake	1	2	3	7	8	9	49/?
Boat/Camper Storage Area	1	2	3	7	8	9	50/?
Other Common Use Places	1	2	3	7	8	9	51/?

18. ASK IF HOUSEHOLD HAS CHILDREN UNDER 12 YEARS OF AGE: *How do you feel about the outdoor places <u>right near your home</u> for your children to play in? Would you say these are excellent, good, average, below average, or poor?*

Excellent..... 1 — 52/?

Good..... 2

Average..... 3

Below Average. 4

Poor..... 5

IF BELOW AVERAGE OR POOR, ASK: 53/:

Why do you say that? (RECORD COMMENTS) _____

_____

_____

GO ON TO THE NEXT PAGE

(DK 2)

19. *Is there anyone in this household for whom there are no suitable recreation facilities or planned activities, or who could use additional or improved facilities or activities, here at [INSERT DEVELOPMENT NAME]?* (Circle one.)

Yes..... 1
No..... 2
Don't Know..... 9

54/?

IF YES, ASK:

What is the problem? (PROBE and circle one code for each possible problem)

NEEDS FOR PROVIDING, ADDING TO, OR IMPROVING--	Mentioned By Respondent	Not Mentioned By Respondent	
--Facilities for Toddlers/Young Children	1	2	55/?
--Planned Activities for Toddlers/Young Children	1	2	56/?
--Facilities for Teenagers	1	2	57/?
--Planned Activities for Teenagers	1	2	58/?
--Facilities for Non-Elderly Adults	1	2	59/?
--Planned Activities for Non-Elderly Adults	1	2	60/?
--Facilities for Elderly People	1	2	61/?
--Planned Activities for Elderly People	1	2	62/?

RECORD ANY OTHER COMMENTS OR SPECIFIC SUGGESTIONS:

63/:

20. *How many cars or other powered vehicles does this household regularly park at [INSERT DEVELOPMENT NAME]?* (Enter number; if no vehicles, enter zero.)

NUMBER OF VEHICLES: ☐ 64/?

21. *Do you (or anyone else in the household), or your visitors and guests, ever have parking problems?* (Circle one)

Yes, for Respondent and/or Others in Household Only..... 1
Yes, for Guests/Visitors Only. 2
Yes, for Both Those in This Household and Visitors..... 3
No..... 4

65/?

GO ON TO THE NEXT PAGE

22. *Now, I'd like to ask you about some services that may be provided at [INSERT DEVELOPMENT NAME] to people who live here. What we'd like to know is, first, is the service provided as far as you know, and if you or your household makes use of it. If a service isn't provided and you think it should be, tell me about that. For the services you do use, I'd like you to tell me if it's satisfactory or not. First, let's take day care. As far as you know, is it provided for the people who live here?*

(CODE BOTH ITEMS A AND B FOR EACH SERVICE NAMED)

	A. *Is [SERVICE] provided?*				B. (IF YES) *Do you use it? If so, Is it satisfactory?*			
	Yes	No--But It Should Be	No--Don't Care If It's Provided Or Not	Don't Know	Used, and Satisfied	Used, Not Satisfied	Not Used	
Day Care Responses:	1	2	3	9	1	2	3	66-67/?
...garbage and trash removal from this building	1	2	3	9	1	2	3	68-69/?
...snow and ice removal from public streets & sidewalks	1	2	3	9	1	2	3	70-71/?
...recreation supervision, including life guards	1	2	3	9	1	2	3	72-73/?
...services for elderly people	1	2	3	9	1	2	3	74-75/?
...bookmobile or other on-site library service	1	2	3	9	1	2	3	76-77/?
...community laundry room	1	2	3	9	1	2	3	78-79/?

23. *We also need to get a rough idea about the annual income of each household covered by this survey. Can you tell me about how much income was earned, overall, by everybody who lives in this household?* (PROBE unless Respondent refuses to answer, in which case go on to the next item. Income estimate should take account of all persons in the household and should include wages and salaries, net income from a business or farm, pensions, dividends, interest, rent, or any other form of money income. You may read coding categories to Respondent.)

Under $2,500..... 1 80/?
Under $5,000..... 2
Under $7,500..... 3
Under $10,000..... 4
Under $12,500..... 5
Under $15,000..... 6
Under $20,000..... 7
$20,000 or More..... 8
Don't Know..... 9

GO ON TO THE NEXT PAGE

BEGIN DK 3:

1/3
2-6/ID

24. *Now, about fire protection: Is there an automatic fire or smoke detector/alarm system anywhere in this building?*

Yes..... 1 — 7/?

No..... 2

Don't Know 9

IF YES, ASK:

Have you ever heard the alarm go off?
(IF YES, ASK:) *How many times?*

Yes, once..... 1 — 8/?

Yes, more than once.. 2

No..... 3

IF YES, ASK:

Did the alarm go off because of a fire, or was it a false alarm, or what? (IF ALARM HAS GONE OFF MORE THAN ONCE, CODE THE MOST SERIOUS INSTANCE. Circle one code:)

Fire..... 1 — 9/?

Smoke But No Fire..... 2

False Alarm..... 3

Alarm Was Being Tested..... 4

Alarm Malfunctioned..... 5

Other (SPECIFY)..... 6

_____

Don't Know..... 9

25. *Do you know of any (any other) fires in this building since you've lived here?* (Circle one code)

Yes..... 1 — 10/?

No..... 2

26. *Other than the automatic fire detection and alarm system, are there any other alarm systems (like manual fire alarms or burglary alarms) in this building? What are they?*

None..... 1 — 11/?

Manual Fire Alarm..... 2

Burglary Alarm..... 3

Both Fire and Burglary..... 4

Other (SPECIFY)..... 5

12/: ☐

_____

Don't Know..... 9

GO ON TO THE NEXT PAGE

27. *Now we'd like you to think about places here that could cause an accident for you (or others in this household). Is there any place in [INSERT DEVELOPMENT NAME], like walkways, steps, play areas--anyplace other than inside buildings--that you consider hazardous?*

Yes..... 1 | 13/?

No..... 2

IF YES: *Would you please tell me what the hazard is, where it is, and why you think it's unsafe?* (RECORD COMMENTS) 14/:

_____

_____

_____

28. *Now, is there anything or anyplace inside your home (or building) which you think is unsafe or could cause an accident?*

Yes..... 1 | 15/?

No..... 2

IF YES: *Please tell me what it is, where it is, and why you consider it unsafe.* (RECORD COMMENTS) 16/:

_____

_____

_____

29. *Since living in [INSERT DEVELOPMENT NAME], have you (or others in this household) had an actual accident, either inside or outside?*

Yes..... 1 | 17/?

No..... 2

IF YES: *Please tell me about it: who had the accident, where it took place, and what happened.* (RECORD COMMENTS) 18/:

_____

_____

_____

30. *Do you have personal friends here in [INSERT DEVELOPMENT NAME]?*

Yes..... 1 | 19/?

No..... 2

IF YES, ASK: *Where do they live?* (Circle one code for each possible location)

	Yes	No	
Elsewhere on This Floor of Bldg.	1	2	20/?
Other Floors, but Same Entrance	1	2	21/?
In Same Building, Different Entry	1	2	22/?
Next-door House or Building	1	2	23/?
Other Five or Six Nearby Bldgs.	1	2	24/?
Elsewhere in Development	1	2	25/?

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(DK 3)

31. (ASK IF RESPONDENT HAS PERSONAL FRIENDS IN THIS DEVELOPMENT--IF RESPONSE TO QUESTION 31 WAS "YES":) *When did you get to know each other, before you came here or afterwards?*

Before..... 1 26/?

Afterwards..... 2

IF RESPONDENT MET FRIENDS AFTERWARDS, ASK:

Where did you meet? (Code response below. If more than one location, PROBE for most significant single location.)

32. ASK OF EVERYONE: *Where in [INSERT DEVELOPMENT NAME] do you most often spend time talking with other people who live here, other than in your own home?* (Code response below)

	CIRCLE ONE CODE IN EACH COLUMN		
	Where Respondent Got to Know Friends (Q. 31, Cols 27-28)	Where Respondent Most Often Spends Time Talking to Others (Q. 32: Cols 29-30)	
IF NO RESPONSE WAS APPLICABLE FOR WHERE RESPONDENT MET FRIENDS, CIRCLE:	Bk-Bk	(NOT APPLICABLE)	27-28/?
Hallways	01	01	29-30/?
Lobby	02	02	
Mailbox	03	03	
Laundry Room	04	04	
Community Room	05	05	
Storage Room	06	06	
Home of a Friend/Neighbor	07	07	
Other Place in Building	08	08	
Community Center/Club House	09	09	
Swimming Pool	10	10	
Tot Lots/Playgrounds	11	11	
Other Recreation Areas	12	12	
Parking Areas	13	13	
Office of Management	14	14	
Yards/Patios/Porches/Front Steps	15	15	
Pedestrian Paths/Walks/Streets/Trails	16	16	
Bus or Other Public Transportation Stop	17	17	
Off Site (All Locations)	18	18	
Other (SPECIFY)_____	19	19	
No Special Location	20	20	
Don't Know/Can't Recall	21	21	
Respondent Doesn't Talk to Others	(NOT APPLICABLE)	22	

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(DK 3)

33. (ASK IF RESPONDENT HAS CHILDREN 17 YEARS OF AGE OR LESS:)

Have your children made friends in [INSERT DEVELOPMENT NAME] since you moved here? (Circle one code)

Yes.....	1	31/?
No.....	2	
Too Soon to Tell (Either Children Too Young or Too New in This Area).....	3	

THEN ASK:

In general, do you think the kids in [INSERT DEVELOPMENT NAME] are a bad influence, more bad than good, more good than bad, or a good influence on your own children? (Circle one code)

A Good Influence.....	1	32/?
More Good Than Bad.....	2	
More Bad Than Good.....	3	
A Bad Influence.....	4	
Don't Know.....	9	

34. HAND COPY OF CARD "A" TO RESPONDENT (SAME AS CARD "A" BLOCK BELOW). *These are some words and phrases which could be used to describe the people who live (in this building and) in the buildings near yours around here in [INSERT DEVELOPMENT NAME]. We'd like you to rate your neighbors on each pair of items. For example, if you think your neighbors are noisy, call out the number right next to the word "noisy." If you think they're quiet, call out the number right next to the word "quiet." If you think they're somewhere in between, call out the number you think fits them best. What number would you give your neighbors on the pair "noisy or quiet"?* (REPEAT FOR EACH OF THE FOUR PAIRS:) *What number would you give them on "friendly or unfriendly"?* (Continue until you have circled one code for each pair.)

NOISY	1	2	3	4	5	QUIET	33/?
UNFRIENDLY	1	2	3	4	5	FRIENDLY	34/?
CONCERNED ABOUT THIS PLACE	1	2	3	4	5	INDIFFERENT ABOUT THIS PLACE	35/?
PEOPLE I DON'T FIT IN WITH	1	2	3	4	5	PEOPLE I DO FIT IN WITH	36/?

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(DK 3)

35. *Have you ever felt threatened around here, by anyone inside or outside of [INSERT DEVELOPMENT NAME]? Please don't identify anyone.* (Circle one)

Yes..... 1 — 37/?

No..... 2

IF YES, ASK:

Again, I don't want you to identify anyone, but do they live in the area right around here--in the five or six buildings nearest this one? (Circle one code for each area where such persons might live.) *Do they live elsewhere in [INSERT DEVELOPMENT NAME]? Do they live in the areas surrounding the development--that is, within a ten minute walk or a half mile away? Do they come from an area more than half a mile away?*

	Yes	No	Don't Know	
Right Around Here--In the Five or Six Buildings Nearest This One	1	2	9	38/?
Elsewhere in This Development	1	2	9	39/?
Areas Surrounding Development--Ten Minute Walk/Half Mile Away	1	2	9	40/?
Area More Than Half Mile Away	1	2	9	41/?

36. *Since moving here, has anyone in this household actually had problems with crime or threats to themselves or their property, such as car theft, burglary, property vandalism, threats of assault, harassment, and the like?*

Yes..... 1 — 42/?

No..... 2

IF YES, ASK: *Would you mind telling me what happened and where it happened? It's not necessary to name any names.* (RECORD COMMENTS)

43/:

AND THEN ASK: *Was the incident reported to the police? Was it reported to the management?* (Circle one code in each row.)

	Yes	No	Don't Know	
Reported to Police	1	2	9	44/?
Reported to Management	1	2	9	45/?

AND THEN ASK: *What steps could be taken--by home builders, police, management, or residents--in a place like this to prevent such incidents from happening?*

46/:

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37. *Now I'd like to ask about a few other things that might affect your security here.* (ASK A THROUGH I. Circle one code for each)

	Yes	No	Don't Know	
A. *Have the original locks on the entry door to your home been adequate?*	1	2	9	47/?
B. *Have these doors themselves been adequate?*	1	2	9	48/?
C. *Have the window locks been adequate?*	1	2	9	49/?
D. *Have these windows themselves been adequate?*	1	2	9	50/?
E. *Have you changed any of the locks in this place?*	1	2	9	51/?
F. *Does the front door have a door viewer ("peephole")?*	1	2	9	52/?
G. *Have you added any locks, bars, or other security devices?*	1	2	9	53/?
H. *Is the outside lighting of the site adequate at night?*	1	2	9	54/?
I. *Is the police and security patrol protection on the site adequate?*	1	2	9	55/?

38. (HAND RESPONDENT CARD B, DEPICTED BELOW:)

1. I NEVER WORRY ABOUT SECURITY. I FEEL SAFE THERE ANY TIME OF THE DAY OR NIGHT.

2. I GENERALLY DON'T WORRY ABOUT SECURITY BUT I'M CAUTIOUS. I TAKE SOME STEPS TO PROTECT MYSELF AND MY PROPERTY.

3. I WORRY ABOUT MYSELF AND MY PROPERTY QUITE A BIT, SO I TAKE SOME EXTRA STEPS TO PROTECT MYSELF AND MY PROPERTY.

4. I DON'T FEEL SAFE THERE AT ALL.

I'd like to know which <u>one</u> statement on this card best describes your feelings about security--your feelings of personal security and protection of property from criminal acts. First, show me which statement applies when you're inside your own home. (ASK A, B, AND C. Circle one code for each.)

	1. Feel Safe Anytime	2. Don't Worry, But Cautious	3. Worry Quite a Bit	4. Don't Feel Safe At All	
A. Response for how respondent feels inside own home:	1	2	3	4	56/?
B. *And how do you feel when you are outside your home, but still in [INSERT DEVELOPMENT NAME]?*	1	2	3	4	57/?
C. *What about how you feel when you are in the areas immediately outside or surrounding [INSERT DEVELOPMENT NAME]--that is, about a ten minute walk or a half mile from here?*	1	2	3	4	58/?

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39. *Now, I'd like to get your thoughts about how convenient the location of [INSERT DEVELOPMENT NAME] is, in terms of where you work, where you shop, and so on. For example, is it convenient for you personally to get to the doctor? How do you typically get there--by walking, driving, taking the bus, or what?*

(REPEAT THESE QUESTIONS FOR ITEMS A THROUGH G BELOW. MEANS OF TRANSPORTATION NEED NOT BE CODED IF ITEM IS NOT APPLICABLE TO RESPONDENT.)

	1. Is Getting There Convenient?			2. If Applicable: What Means of Transportation?						
	Yes	No	Not Applicable: (No Such Trips)	Walk	Bicycle	Private Car	Taxi	Public Transport	Other	
A. Responses for Going to the Doctor	1	2	9	1	2	3	4	5	6	59-60/?
B. *What about getting to work?*	1	2	9	1	2	3	4	5	6	61-62/?
C. *Grocery Shopping?*	1	2	9	1	2	3	4	5	6	63-64/?
D. *School?*	1	2	9	1	2	3	4	5	6	65-66/?
E. *The Movies?*	1	2	9	1	2	3	4	5	6	67-68/?
F. *Your church or synagogue?*	1	2	9	1	2	3	4	5	6	69-70/?
G. *The friends or relatives you visit most often?*	1	2	9	1	2	3	4	5	6	71-72/?

40. *Keeping the same set of places in mind--going to the doctor, getting to work, shopping for groceries, getting to schools, going to the movies, going to church, and visiting friends--how important is it for you to be conveniently located with respect to these? Taking them one by one, is it very important to be conveniently located, or only moderately important, or not important?*

	Convenience of Location is:			
	Very Important	Moderately Important	Not Important	
A. Getting to the Doctor	1	2	3	73/?
B. Getting to Work	1	2	3	74/?
C. Grocery Shopping	1	2	3	75/?
D. Getting to Schools	1	2	3	76/?
E. Going to Movies	1	2	3	77/?
F. Getting to Church or Synagogue	1	2	3	78/?
G. Visiting Friends or Relatives	1	2	3	79/?

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BEGIN DK 4: 1/4 2-6/ID

41. *For whatever reasons--whether personal or related to work--during which hours do you typically sleep on weekdays?* (Code to the nearest full hour and circle code for AM/PM)

FROM: Hour	AM/PM	TO: Hour	AM/PM	
☐☐	1 2	☐☐	1 2	7-12/?

42. *Other than the time you sleep, how much time do you spend at home on a typical weekday?*

Number of Hours ☐☐ 13-14/?

43. *Do you have difficulty getting around inside or outside your home, or have difficulty doing daily chores, because of a permanent disability or physical handicap?*

Yes..... 1 15/?
No..... 2

IF YES, ASK ITEMS A-F. Circle one response for each:

	Never	Some-times	Most of the Time	
A. *How often must you stay in the house because of the disability--never, sometimes, or most of the time?*	1	2	3	16/?
B. *How often do you need the help of another person in getting around inside or outside--never, sometimes, or most of the time?*	1	2	3	17/?
C. *How often do you need some special aid (cane, wheelchair, etc.) to get around inside or outside--is it never, sometimes, or most of the time?*	1	2	3	18/?

	Yes	No	
D. *Can you see well enough with glasses to read ordinary newsprint with either eye?*	1	2	19/?
E. *Can you see well enough to step down stairs or off a curb?*	1	2	20/?
F. *Can you see moving objects, such a moving cars or people walking?*	1	2	21/?

44. ASK IF MORE THAN ONE OCCUPANT IN HOUSEHOLD: *Does anyone else here have difficulty getting around inside or outside, or have difficulty doing daily chores, because of a permanent disability or handicap?*

Yes..... 1 22/?
No..... 2

IF YES, ASK ITEMS A-G. IF MORE THAN ONE OTHER DISABLED PERSON, RECORD DATA FOR THE FIRST PERSON MENTIONED.

	Age	Male/Female	
A. *What is this person's age and sex?* (Code age in the boxes and circle a number code for sex)	☐☐	1 2	23-25/?

	Never	Some-Times	Most of the Time	
B. *How often must this person stay in the house because of the disability--never, sometimes, or most of the time?*	1	2	3	26/?
C. *How often do they need the help of another person in getting around inside or outside--never, sometimes, or most of the time?*	1	2	3	27/?
D. *How often do they need some special aid (cane, wheelchair, etc.) to get around inside or outside--is it never, sometimes, or most of the time?*	1	2	3	28/?

	Yes	No	Don't Know	
E. *Can they see well enough with glasses to read ordinary newsprint with either eye?*	1	2	9	29/?
F. *Can they see well enough to step down stairs or off a curb?*	1	2	9	30/?
G. *Can they see moving objects, such as moving cars or people walking?*	1	2	9	31/?

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(DK 4)

45. *Now, about your home. Is there anything or anyplace in your home that is unnecessarily difficult to get at, to move around in, or to move past?*

Yes..... 1 — 32/?

No..... 2

IF YES, ASK:

What is the problem and where in your home is it? (RECORD COMMENTS)

33/:

46. *Counting any separate basement or attic levels used as living, work, or storage areas, how many floors or levels are there in this home?* (PROBE. Don't count crawl spaces or "sunken" rooms).

Number of Levels: ☐ — 34/?

47. *How many flights of stairs are there inside your home? Count each run of two or more stairs between one landing or level and another landing or level as one flight.*

Number of Flights: ☐ — 35/?

48. ASK IF UNIT IS IN A MULTIFAMILY BUILDING:

And the main entrance to your unit is on the [INSERT NUMBER] floor of the building, is that right? (Confirm with "yes" or "no." Enter number of floor.)

Floor Number: ☐☐ — 36-37/?

49. ASK A, B, AND C, AND RECORD NUMBERS:

A. *How many full baths--with a sink, toilet, and either a shower or a tub--are in this home?* Number: ☐ — 38/?

B. *How many half baths--only a sink and toilet--do you have?* Number: ☐ — 39/?

C. *How many separate bedrooms were included in this place by the builder?* (There may be none, as in an efficiency unit.) Number: ☐ — 40/?

50. *Other than bedrooms, are there any other rooms that are used regularly by people living here as places to sleep?*

Yes..... 1 — 41/?

No..... 2

IF YES, SPECIFY WHICH ROOM(S) — 42/:

51. IF MORE THAN ONE BEDROOM, ASK: *Is the bedroom that you use a master bedroom--that is, is it the largest bedroom in the home?*

Yes..... 1 — 43/?

No..... 2

52. IF MORE THAN ONE FULL BATHROOM, ASK: *Is the bathroom you usually use for bathing and personal hygiene a master bathroom--that is, is it accessible only through a bedroom?*

Yes..... 1 — 44/?

No..... 2

GO ON TO THE NEXT PAGE

(DK 4)

53. *I'd like to ask you about some of these rooms and places in your home. Let's take them one by one.*

(ASK ALL ITEMS FOR EACH ROOM BEFORE GOING TO THE NEXT ROOM, COLUMN BY COLUMN. IF UNIT IS AN EFFICIENCY, COMPLETE COLUMNS FOR LIVING ROOM, KITCHEN, AND BATH.

	(A) Living Room	(B) Kitchen (Incl. Dining Alcove)	(C) Bathroom Used by Respondent	(D) Other Bathrooms (If Applicable)	
(1) *Is the [ROOM NAME] large enough?* Yes:	1	1	1	1	45-48/?
No:	2	2	2	2	
(2) *Does it have sufficient built-in lighting?* Yes:	1	1	1	1	
No:	2	2	2	2	49-52/?
Not Applic.:	9	9	9	9	
(3) *Does it get sufficient natural light?* Yes:	1	1	1	1	
No:	2	2	2	2	53-56/?
Not Applicable--No Windows:	9	9	9	9	
(4) *Did enough built-in storage--closets, cupboards, etc.--come with the room? Don't count anything you may have added.* Yes:	1	1	1	1	
No:	2	2	2	2	57-60/?
Not Applic.:	9	9	9	9	
(5) *During cold weather, can you get the room as warm as you want it, throughout the room?* Yes:	1	1	1	1	
No:	2	2	2	2	61-64/?
Don't Know/Not Applicable:	9	9	9	9	
(6) *In warm weather, can you get the room as cool as you want it?* Yes:	1	1	1	1	
No:	2	2	2	2	65-68/?
Don't Know/Not Applicable:	9	9	9	9	
(7) *What about humidity? Does it ever seem too humid or too dry?* Too Humid:	1	1	1	1	
Too Dry:	2	2	2	2	
Both:	3	3	3	3	69-72/?
Neither:	4	4	4	4	
(8) *Have you made any major changes to the room, like moving a wall or adding a closet? Don't count things like painting or buying furniture.* Yes:	1	1	1	1	
No:	2	2	2	2	73-76/?

QUESTION 53 CONTINUED ON THE NEXT PAGE

BEGIN DK 5:

1/5
2-6/ID

QUESTION 53, CONTINUED: NOTE THAT ITEMS CHANGE SLIGHTLY FOR THESE ROOMS:

	(E) Bedroom Used by Respondent	(F) Other Bedrooms (If Applicable)	(G) Separate Dining Room	(H) Family Room	(I) Den	
(1) *Was a [ROOM NAME] included included in this home?* Yes:	1	1	1	1	1	7-11/?
No:	2	2	2	2	2	
(2) *Is it large enough?* Yes:	1	1	1	1	1	12-16/?
No:	2	2	2	2	2	
(3) *Does it get sufficient natural light?* Yes:	1	1	1	1	1	
No:	2	2	2	2	2	17-21/?
Not Applicable--No Windows:	9	9	9	9	9	
(4) *Did enough built-in storage--closets, cupboards, etc.--come with the room? Don't count anything you may have added.* Yes:	1	1	1	1	1	
No:	2	2	2	2	2	22-26/?
Not App.:	9	9	9	9	9	
(5) *During cold weather, can you get the room as warm as you want it, throughout the room?* Yes:	1	1	1	1	1	
No:	2	2	2	2	2	27-31/?
Don't Know/Not Applicable:	9	9	9	9	9	
(6) *In warm weather, can you get the room as cool as you want it?* Yes:	1	1	1	1	1	
No:	2	2	2	2	2	32-36/?
Don't Know/Not Applicable:	9	9	9	9	9	
(7) *What about humidity? Does it ever seem too humid or too dry?* Too Humid:	1	1	1	1	1	
Too Dry:	2	2	2	2	2	
Both:	3	3	3	3	3	37-41/?
Neither:	4	4	4	4	4	
(8) *Have you made any major changes to the room, like moving a wall or adding a closet? Don't count things like painting or buying furniture.* Yes:	1	1	1	1	1	42-46/?
No:	2	2	2	2	2	

GO ON TO THE NEXT PAGE

(DK 5)

54. *As part of your home, do you have for your private use:* (ASK A THROUGH D, AND CIRCLE ONE CODE FOR EACH)

A.	Porch	Yes..... 1 No..... 2	47/?
B.	Balcony	Yes..... 1 No..... 2	48/?
C.	Yard (front or back), or Patio	Yes..... 1 No..... 2	49/?
D.	Garage or a Carport	Yes..... 1 No..... 2	50/?

55. *Do you have a private storage bin or shed outside this apartment (house)?*

Yes..... 1 51/?
No..... 2

IF YES: ASK ITEMS A THROUGH D:

A.	*Is this space large enough?*	Yes..... 1 No..... 2 52/?
B.	*Is the lighting adequate?*	Yes..... 1 No..... 2 53/?
C.	*Is the space too humid or too dry?*	Too Humid.... 1 Too Dry..... 2 Both..... 3 Neither..... 4 54/?
D.	*Is it adequately protected against theft?*	Yes..... 1 No..... 2 55/?

56. *Let me name a room, and you tell me whether or not it's easy for you to arrange your furniture in it. For example, how easy is it for you to arrange the furnishings in the...*

	Easy	Not Easy	Not Applicable	
...living room?	1	2	9	56/?
...your own bedroom?	1	2	9	57/?
...other bedrooms?	1	2	9	58/?
...a separate dining room?	1	2	9	59/?
...a separate family room?	1	2	9	60/?
...a separate den or study?	1	2	9	61/?

GO ON TO THE NEXT PAGE

(DK 5)

57. *I'd also like to know about rooms that have been converted from one use to another, like a den used as a dining room, or a dining room used as a bedroom, or a bedroom used as an office. If there are rooms like this in your home, please tell me the original name of the room and what you use it for now:* (RECORD UP TO FOUR)

62/:

(1) ORIGINALLY _____

NOW _____

63/:

(2) ORIGINALLY _____

NOW _____

64/:

(3) ORIGINALLY _____

NOW _____

65/:

(4) ORIGINALLY _____

NOW _____

58. *Earlier I asked you about major or expensive permanent changes that might have been made in particular rooms. Now I'd like you to think about the biggest single change you've made since moving here, other than adding furniture or painting--changes such as moving a wall or adding a closet* (IF SINGLE FAMILY, ADD: *or changes you may have made to the outside of the home*). *Are there any such changes? If so, were they made to correct something that was wrong, or to add something you wanted to have?*

66/?

To Correct Something Wrong..... 1
To Add Something You Wanted to Have..... 2
Both to Correct and to Add..... 3
Some Other Reason: SPECIFY..... 4

_____

No Changes Made..... 5

IF ANY CHANGES REPORTED, ASK:

67/:

What was this change? _____

_____

68/:

Where is it? _____

_____

59. *A final question about your bathroom--the one you use most frequently. What do you think of the layout and arrangement of the fixtures, like the sink, mirror, medicine cabinet, toilet, tub, etc.? Is it excellent, good, average, below average, or poor?*

69/?

Excellent..... 1
Good..... 2
Average..... 3
Below Average..... 4
Poor..... 5

IF ANY ANSWER OTHER THAN "AVERAGE," ASK: *What about the bathroom makes you say that?*

70/:

_____

_____

GO ON TO THE NEXT PAGE

60. *Given how you use this kitchen: what do you think of the layout of the cabinets and countertops, the arrangement of the appliances, the sink, and the rest: is it excellent, good, average, below average, or poor?*

Excellent..... 1 71/?
Good..... 2
Average..... 3
Below Average..... 4
Poor..... 5

IF ANY ANSWER OTHER THAN "AVERAGE," ASK: *What about the kitchen layout makes you say that?*

72/: ☐

_____

_____

61. *Compared with your experience before moving here, do you think the routine cleaning of floors, windows, sinks, toilets, and so on, is easier than it was before, about the same, or more difficult?*

Easier Than Before..... 1 73/?
About the Same as Before..... 2
More Difficult Than Before..... 3

Why do you say that? (PROBE for sources of difficulty, sources of ease)

74/: ☐

_____

_____

62. *Here are some typical housekeeping and upkeep chores. For each one, can you tell me who is mainly responsible for carrying them out?* (Circle one code in each row)

	Respondent Mainly Responsible	Respondent Shares With Others in Household	Someone Provided by Management (if applicable)	
Hanging Drapes, Shelves, Pictures:	1	2	3	75/?
Light Housekeeping--Dusting, Cleaning Floors:	1	2	3	76/?
Heavier Work--Trash Disposal, Snow Removal:	1	2	3	77/?
Minor Repairs--Painting, Patching:	1	2	3	78/?

63. *When repairing or decorating your home: was the way the walls were built (such as with or without studs), or did the wall material itself (like plaster or concrete) present any problems for repairs or decorating projects?*

Yes..... 1 79/?
No..... 2
Don't Know/Not Applicable... 9

IF YES, ASK:

What was the problem and how did you handle it? _____ 80/: ☐

_____

GO ON TO THE NEXT PAGE

BEGIN DK 6:

1/6
2-6/ID

64. *Earlier, I asked about the lighting inside your home. What about the lighting here in [INSERT DEVELOPMENT NAME], generally? Do you think there is adequate lighting--* (Circle one code in each row.)

	Yes	No	Don't Know	Not Applic.	
--Along the pathways, sidewalks and streets?	1	2	8	9	7/?
--In the area around building entrances?	1	2	8	9	8/?
--In outdoor recreation areas?	1	2	8	9	9/?
--In outdoor public parking areas?	1	2	8	9	10/?

65. IF MULTIFAMILY BUILDING, ALSO ASK:

--In the entryway or lobby?	1	2	8	9	11/?
--In Hallways?	1	2	8	9	12/?
--In Elevators?	1	2	8	9	13/?
--In Stairways?	1	2	8	9	14/?
--In a community room?	1	2	8	9	15/?
--In the laundry room?	1	2	8	9	16/?

66. IF "NO" TO ANY OF THE ABOVE, ASK:

What kinds of problems do you think may be caused by inadequate lighting? (PROBE. Circle one code in each row.)

	MAJOR FACTOR: Stressed by Respondent	MINOR FACTOR: Also Mentioned By Respondent	NOT A FACTOR: Not Mentioned By Respondent	
SECURITY-RELATED PROBLEMS: creates lurking places for criminals/prowlers, inability to recognize people, etc.	1	2	3	17/?
SAFETY AND HEALTH-RELATED PROBLEMS: can't see obstacles, steps or stairs or other hazards like toys left outside	1	2	3	18/?
LOCOMOTION/MOBILITY-RELATED PROBLEMS: can't see addresses or street signs; difficult to find your way around	1	2	3	19/?
LIMITS USE OF SITE FACILITIES: can't use recreation areas after dark	1	2	3	20/?
GENERAL STATEMENT OF WORRY OR FEAR: No specific problem or consequences	1	2	3	21/?

IF RESPONDENT CITES OTHER PROBLEMS OR CONSEQUENCES OF POOR LIGHTING ON THE SITE OR IN/AROUND RESPONDENT'S BUILDING, ENTER HERE:

_____

_____

_____

22/: ☐

GO ON TO THE NEXT PAGE

(DK 6)

67. *We haven't spoken about noise and whether it's a problem here. Is there anything inside your home that is making noise that bothers you?* (PROBE: where does the noise come from and what is causing it? Circle one code in each row.)

	MAJOR FACTOR: Stressed By Respondent	MINOR FACTOR: Also Mentioned By Respondent	NOT A FACTOR: Not Mentioned By Respondent	
Noise From Windows, Doors, Floors:	1	2	3	23/?
Noise From Heating/Cooling/Ventilation Systems: Furnace, Fan, Air Conditioner	1	2	3	24/?
Noise from Plumbing: Flushing, Water Running, Pipes in the Walls, Etc.	1	2	3	25/?
Noise Made by a Bathroom Fan	1	2	3	26/?
Noise From Appliances: Washer, Dryer, Etc.	1	2	3	27/?
Noise From Light Fixtures or Other Components of the Electrical System	1	2	3	28/?

ALL OTHER RESPONSES, INCLUDING "NO NOISE INSIDE THE HOUSE" OR "OTHER SPECIFIC SOURCE OF NOISE" (PETS, CHILDREN, ETC.): RECORD HERE: 29/: ☐

_____

68. *What about bothersome noises that originate <u>outside</u> this house/apartment--that come in through the walls or floors or ceiling, or through closed doors or closed windows?* (PROBE, as above. Circle one code in each row:)

Reasons Applicable to All:	MAJOR FACTOR: Stressed By Respondent	MINOR FACTOR: Also Mentioned By Respondent	NOT A FACTOR: Not Mentioned By Respondent	
Noise From People or Pets Outdoors or in Another Building	1	2	3	30/?
Noise From Traffic On or Off the Site	1	2	3	31/?
Other Noise <u>Outside</u> the Building (PLEASE NOTE: SPECIFY BELOW)	1	2	3	32/?
<u>Reasons Applicable to MULTIFAMILY RESPONDENTS ONLY: noises from--</u>				
OTHER DWELLING UNITS IN THE BUILDING:				
Sounds of People or Pets	1	2	3	33/?
Pianos, TV's, Hifi Systems, Etc.	1	2	3	34/?
Sounds of Mechanical Systems, Plumbing, Appliances, Floors or Other Fixtures	1	2	3	35/?
ELSEWHERE IN THE BUILDING:				
Elevators, Trash Chutes, Laundry Rooms	1	2	3	36/?
Halls, Stairs, Doors, <u>Inside the Building</u>	1	2	3	37/?
Other Sounds <u>Inside</u> the Building (PLEASE NOTE: SPECIFY BELOW)	1	2	3	38/?

ALL OTHER RESPONSES, INCLUDING "NO NOISE OUTSIDE THE HOUSE" OR "OTHER SPECIFIC SOURCE OF NOISE" (IF MAJOR OR MINOR FACTORS CODED ABOVE): RECORD HERE: 39/: ☐

_____

_____

GO ON TO THE NEXT PAGE

69. ASK UNLESS RESPONDENT HAS ABSOLUTELY NO PROBLEMS WHATEVER WITH NOISE:

What is it that is irritating about the noises you mentioned? (PROBE and code as before)

	MAJOR FACTOR: Stressed By Respondent	MINOR FACTOR: Also Mentioned By Respondent	NOT A FACTOR: Not Mentioned By Respondent	
Awakens Persons From Sleep; Makes Falling Asleep Difficult	1	2	3	40/?
Distraction, Disruption, Interruptions of Everyday Activities	1	2	3	41/?
Vibration of the Dwelling Unit: and Its Consequences (Breakage)	1	2	3	42/?
Sheer Loudness	1	2	3	43/?

ALL OTHER RESPONSES, INCLUDING "NOT BOTHERED BY NOISE,"
ANY OTHER TYPE OF NOISE IRRITATION REPORTED, DON'T KNOW, ETC: RECORD HERE:

_____

_____ 44/: ☐

_____

_____

_____

70. UNLESS THE RESPONDENT LIVES ALONE, ASK:A AND B:

A. *When you need it, can you find a place <u>in this house</u> to get away by yourself? Would you say you can find such a place anytime you wish, or most of the time, or sometimes, or not at all?* (Circle one)

Anytime..... 1 — 45/?
Most of the Time..... 2
Sometimes..... 3
Not at All..... 4
Don't Need It (SKIP PART B)..... 5

B. *When you want to be alone and be left alone, where do you usually go?* (DO NOT PROBE.) 46/: ☐

_____

71. ASK OF EVERYONE: *Are you the first to occupy this house/apartment?*

Yes..... 1 — 47/?
No..... 2
Don't Know.. 9

72. *How many times have you moved during the **past five years?** Include the move into this place (if in this time frame).*

Number of Moves ☐ 48/?

[NOTE: TIME FRAME OF REFERENCE MUST BE ADJUSTED TO SPECIFIC APPLICATION OF QUESTIONNAIRE IN A SURVEY.]

GO ON TO THE NEXT PAGE

(DK 6)

73. *Last month, about how much did it cost you (and the others in the household) to live here?* (PROBE to make sure respondent includes a consideration of all housing costs: rent or mortgage payments; any property or assessment taxes; all utilities, including fuel oil, but excluding telephone; and any maintenance or other fees. Detail beyond "nearest five dollars" level is not necessary. If Respondent does not know monthly cost, code blocks "999")

$ ☐☐☐ 49-51/?

74. *How much of this was spent on fuel oil, gas, coal, or electricity?*

$ ☐☐☐ 52-54/?

75. IF HOME IS OWNED (INCLUDING COOPERATIVES AND CONDOMINIUMS), ASK:

What was the total purchase price of this home, to the nearest thousand dollars? (If Respondent does not know, code blocks "999")

$ ☐☐☐ thousand 55-57/?

76. *If you need repair work done inside the home, who is mainly responsible for doing it, or seeing that it gets done?* (Circle one code in each row)

	Mainly Responsible	May Also be Involved	Not Mentioned by Respondent	
Occupants or Someone Hired by Occupants	1	2	3	58/?
Manager or Someone Working for Management	1	2	3	59/?
Homeowner's Association	1	2	3	60/?
Builder/Developer	1	2	3	61/?

ALL OTHER RESPONSES, INCLUDING OTHER SOURCES OF REPAIRS, STATEMENT THAT NO ONE TAKES RESPONSIBILITY FOR REPAIRS, OR DON'T KNOW: RECORD HERE:

62/:

77. *In the past three months, have you attempted to get repairs made to this home?*

Yes..... 1 63/?

No..... 2

IF YES, ASK:

Has all of this work been finished, to your complete satisfaction?

Yes..... 1 64/?

No.....2

IF NO: *What is the problem?*

65-66/:

GO ON TO THE NEXT PAGE

(DK 6)

78. *Going back to [INSERT DEVELOPMENT NAME], who is responsible for the maintenance and upkeep of the development itself, like the grounds, facilities, and streets? Is it the management, or a homeowner's association, or some other person or group?* (Circle one in each row.)

	Mainly Responsible	May Also Be Involved	Not Mentioned By Respondent	
Management or Manager	1	2	3	67/?
Homeowner's Association	1	2	3	68/?
Other (SPECIFY BELOW)	1	2	3	69/?

ALL OTHER RESPONSES, INCLUDING "NO ONE," SPECIFICATION OF "OTHER," ABOVE, DON'T KNOW, ETC.: RECORD HERE 70/: ☐

_____

79. *And what person or group makes and enforces the rules and regulations here?* (Circle one code in each row)

	Mainly Responsible	May Also Be Involved	Not Mentioned By Respondent	
Management or Manager	1	2	3	71/?
Homeowner's Association	1	2	3	72/?
Other (SPECIFY BELOW)	1	2	3	73/?

ALL OTHER RESPONSES, INCLUDING "NO ONE," SPECIFICATION OF "OTHER," ABOVE, DON'T KNOW, ETC.: RECORD HERE 74/: ☐

_____

80. *Do you think there are any unfair rules or regulations here at [INSERT DEVELOPMENT NAME]?* (IF YES, ASK:) *Which ones are they? Why do they bother you?* (PROBE and circle one code in each row)

	MAJOR FACTOR: Stressed By Respondent	MINOR FACTOR: Also Mentioned By Respondent	NOT A FACTOR: Not Mentioned By Respondent	
Limitations on Use of Dwelling Unit: Restrictions on Decoration or Modification or on Other Furnishing of the Home	1	2	3	75/?
Size of Fees, Assessments, Payments; Collection or Return of Deposits	1	2	3	76/?
Site Facilities/Services: Recreation Areas and Supervision, Garbage Removal, Rules on Common Use Areas, Parking, Etc.	1	2	3	77/?
Unequal/Unfair Treatment of Occupants by Management: Occupant Selection, Enforcement of the Regulations, Occupant Eviction	1	2	3	78/?
Specific Rules About Children, Pets, Visitors (SPECIFY WHICH ONE OF THESE BELOW)	1	2	3	79/?

ALL OTHER RESPONSES, INCLUDING CHILDREN/PET/VISITOR DISTINCTION, OTHER BOTHERSOME RULES, "NO UNFAIR RULES," DON'T KNOW, ETC.: RECORD HERE 80/: ☐

_____

_____

GO ON TO THE NEXT PAGE

BEGIN DK 7: 1/7 2-6/ID

81. *Is anything permitted here that you don't approve of?*

Yes..... 1 — 7/?
No..... 2
Don't Know..... 9

IF YES: *What is it that you object to?*

8/: ☐

_____

_____

82. *Overall, what do you think of the way [INSERT DEVELOPMENT NAME] is managed? Are you very well satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?* (Circle one code)

Very Satisfied..... 1 — 9/?
Somewhat Satisfied..... 2
Somewhat Dissatisfied.. 3
Very Dissatisfied..... 4

83. *Have you noticed anything innovative, or new, or different about the way your home was built, inside or outside, or about the materials used to construct this home?*

Yes..... 1 — 10/?
No..... 2
Don't Know..... 9

IF YES: *What is it that you've noticed--can you describe the new or different features of this home?* (PROBE. Record up to three examples. In each case also ask: *Do you find that this feature is an improvement?* --and code yes/no.) 11/: ☐

EXAMPLE #1_____

_____ IMPROVEMENT? Yes.. 1 — 12/?
No... 2
DK... 9

13/: ☐

EXAMPLE #2_____

_____ IMPROVEMENT? Yes.. 1 — 14/?
No... 2
DK... 9

15/: ☐

EXAMPLE #3_____

_____ IMPROVEMENT? Yes.. 1 — 16/?
No... 2
DK... 9

84. *What is your opinion about the area around [INSERT DEVELOPMENT NAME]--is it a very good area in which to live, or about average, or not so good?*

Very Good..... 1 — 17/?
About Average..... 2
Not So Good..... 3

GO ON TO THE NEXT PAGE

(DK 7)

85. *Now that you've been living here, what are the one or two things you like most about [INSERT DEVELOPMENT NAME]?* (RECORD COMMENTS)

18/:

(1)_____

_____

19/:

(2)_____

_____

86. *And what are the one or two things you dislike most?* (RECORD COMMENTS)

20/:

(1)_____

_____

21/:

(2)_____

_____

87. ASK A AND B:

A. *Thinking about your experiences here, overall, what do you think of your home as a place to live--are you very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?*

22/?

Very Satisfied..... 1
Somewhat Satisfied..... 2
Somewhat Dissatisfied... 3
Very Dissatisfied..... 4

B. *If any <u>one</u> aspect of this house/apartment could be changed, regardless of cost, what would you want changed?* (RECORD COMMENTS)

23/:

_____

_____

_____

88. ASK A AND B:

A. *What do you think about the physical aspects of this development--the grounds, facilities, streets, and all? Are you very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the development as a place to live?*

24/?

Very Satisfied..... 1
Somewhat Satisfied..... 2
Somewhat Dissatisfied... 3
Very Dissatisfied..... 4

B. *If any <u>one</u> physical aspect of the development could be changed, regardless of cost, what would you want changed?* (RECORD COMMENTS)

25/:

_____

_____

_____

GO ON TO THE NEXT PAGE

(DK 7)

89. *How likely is it that you will move from this place during the next two or three years? Are you certain to move, or do you think you might move, or do you currently plan to stay here?*

Certain to Move	1	26/?
Might Move	2	
Plan to Stay	3	
Can't Say, Undecided	4	

IF "CERTAIN TO MOVE" OR "MIGHT MOVE", ASK A AND B:

A. *Why are you thinking about moving?* (PROBE: Code one response in each row)

	MAJOR FACTOR: Stressed By Respondent	MINOR FACTOR: Also Mentioned By Respondent	NOT A FACTOR: Not Mentioned By Respondent	
Economic Dissatisfaction With Present Home: Lower Costs, Better Housing for the Price, Feeling That One Can't Afford to Live Here	1	2	3	27/?
Want Privacy, Quiet--No Privacy Here	1	2	3	28/?
Prefer Improved Location in Same Area: to be Closer to Shops, Schools, Work	1	2	3	29/?
Moving Out for Personal Reasons: School, New Job, Marriage, Family Moving, etc.	1	2	3	30/?
Expect to Go to Rest Home/Retirement Home	1	2	3	31/?
Because of Other People: Dislike People Here, Too Many/Too Few Children, Etc.	1	2	3	32/?
Need a Larger House, More Room, Etc.	1	2	3	33/?
Prefer a Smaller Place--House is Too Big	1	2	3	34/?
Desire for More Space Around Unit: Want More Land, Larger Yard	1	2	3	35/?
Want Better Constructed/Higher Quality Home	1	2	3	36/?
Lack of Maintenance, Bad Maintenance	1	2	3	37/?
Lack of Security for Property or People	1	2	3	38/?
Building or Buying Another Home	1	2	3	39/?

ALL OTHER RESPONSES, INCLUDING "DON'T KNOW": RECORD HERE 40/: ☐

_____

_____

B. *What type of housing will you be looking for, owning or renting? Highrise? Lowrise?*

Plans to Buy Single-family Detached House	1	41/?
Plans to Rent Single-family Detached House	2	
Plans to Buy Single-family Attached House	3	
Plans to Rent Single-family Attached House	4	
Plans to Buy Dwelling in Multifamily Building	5	
Plans to Rent Dwelling in Multifamily Building	6	
Mobile Home (Either Rental or Purchased)	7	
Moving in With Relatives	8	
Other: SPECIFY BELOW (including Don't Know)	9	

_____

GO ON TO THE NEXT PAGE

(DK 7)

90. *Finally, what do you think [INSERT DEVELOPMENT NAME] will be like in five years? Will it be a better place to live than it is now, or about the same, or not as good?*

Better	1	42/?
About the Same	2	
Not as Good	3	
Don't Know	9	

IF EITHER "BETTER" OR "NOT AS GOOD," ASK:

Why do you say that?

43/:

RECORD RESPONSE_____

_____

_____

_____

We want to thank you very much for your time and cooperation!

ENTER THE PRESENT TIME:_____AM/PM

END OF INTERVIEW. THE REMAINING ITEMS ARE TO BE COMPLETED LATER BY THE INTERVIEWER.

INTERVIEWER'S SURVEY

91. Please characterize the one phrase that best describes the current permanent residents of this household:

One Person Living Alone	1	44/?
Married Couple (No Other Residents)	2	
Married Couple With Children	3	
Married Couple With Relatives	4	
Married Couple, Children, Relatives	5	
Single Adult With Children	6	
Single Adult With Relatives	7	
Unrelated Adults (Roommate Situation)	8	
Other: SPECIFY	9	

_____

92. How many generations live in the household?

One Generation Only	1	45/?
Two Generations: Parents and Minor Children	2	
Two Generations: Older Parents With Adult Children	3	
Three Generations: Grandparents, Parents, and Children	4	

GO ON TO THE NEXT PAGE

(DK 7)

93. What is your impression of the Respondent's hearing ability?

Respondent's Hearing is Good.....	1	46/?
Respondent has a little trouble hearing	2	
Respondent had a lot of trouble hearing	3	

94. Did you see anything that would suggest vision, hearing, or other physical defects or disabilities of the respondent?

Respondent's Eyeglasses.....	1	47/?
Respondent's Hearing Aid.....	2	
Respondent's Crutches, Walker, Cane, Wheelchair, Etc.....	3	
Other: SPECIFY_____	4	
Nothing observed.....	5	

95. Did anyone other than the Respondent participate in any way in the interview? Include presence of others whether they spoke or not, as well as others volunteering answers or discussing items during the session.

Yes...	1	48/?
No....	2	

IF YES: INDICATE WHICH PORTIONS OF THE INTERVIEW WERE AFFECTED AND HOW THEY WERE AFFECTED: 49/:

_____

_____

96. What is the Respondent's race?

White.....	1	50/?
Black.....	2	
Other: SPECIFY.....	3	

_____

97. Was the Respondent's understanding of the interview good, fair, or poor?

Good.....	1	51/?
Fair.....	2	
Poor.....	3	

98. In general, what was the respondent's attitude during the interview?

Friendly, Even Eager.....	1	52/?
Cooperative, But Not Eager.....	2	
Indifferent, Bored.....	3	
Hostile.....	4	

99. During the interview, did this attitude change?

Yes...	1	53/?
No....	2	

IF YES: At what point in the interview did it change? Can you tell why it changed? 54/:

_____

_____

_____

_____

GO ON TO THE NEXT PAGE

(DK 7)

100. Many things may affect a respondent's answers, yet there may be no questions about these in the interview schedule. Please tell us what you know about some of these factors. Here is a checklist; if any of the answers are "yes" or "to some degree," we'd be interested in any comments you can provide in the space below.

There's no need to repeat any of the information you already provided above.

	Yes	To Some Degree; Not a Problem	No	
A. Something happened during the interview, either inside or outside the house, that affected it, such as a constant barrage of noise; or unusual weather; or the respondent's personal reaction to a job loss, injury, death, illness, or the like; or any other serious distraction.	1	2	3	55/?
B. There is something about the dwelling unit, or the outside places that belong to people living there, that is useful to know in drawing conclusions from the data in this interview, such as its use as a business address for self-employed people, evidence of any housekeeping or maintenance problems that didn't turn up in the interview, and the like.	1	2	3	56/?
C. There is something about the people in this household, including the respondent, that is important to know in drawing conclusions from this information, such as the presence of temporary residents, pets, and the like.	1	2	3	57/?

COMMENTS (please reference A/B/C if necessary)

58/:

THAT'S ALL. THANK YOU!

COMMENTS ON THE REVISED CORE QUESTIONNAIRE ITEMS

These comments have been keyed to the internal pagination of the rev. CQ and, when needed, to question numbers. Text page numbers appear in parentheses.

Page 1 (118) The interviewer's appointment record is used to keep track of attempts to obtain a particular interview. Callbacks, up to some specified number of trials, should be made until a complete interview or an outright refusal is obtained. The record will provide the date of the interview, which may be keypunched if desired (e.g., in columns 71-80 of deck 1) to allow machine calculation of elapsed time between, for example, the time the respondent moved in and the interview date. Compare with Q. 10, page 6 of the questionnaire.

ID codes: The code number either may be assigned serially or may be specially devised for the particular survey application. For example, a study of occupants of a set of five high rise buildings could use the first digit to code the building, the second and third to denote the floor, and the fourth and fifth to denote apartment numbers. The entire file of respondent data could then be linked by computer with a separate file of data on the physical characteristics of each apartment and building.

Zero filling: Every coding box should be filled in unless instructions allow the question to be skipped. This means the number "zero" should be used. For example, the two-digit code for the month of January is 01, not the single digit 1.

Whether the interviewer will fill out or confirm data on the respondent's name, address, etc., will depend on the application. In some cases, a respondent's name will be known in advance and the interviewer would simply track down the person whose name appears on page 1 of the questionnaire. In other cases (such as in random block samples), the name of the respondent may not be known in advance and would be filled in at the time of the interview. Because surveys can invade the privacy of respondents, researchers may wish to protect their respondents by subsequently removing identifying information, such as their names, from the questionnaires.

Building [housing] type: In some surveys a fifth code may be needed to denote mobile homes. Compare with Q. 89B, page 33.

Page 2 (119) Who is to be interviewed: The questionnaire should be administered to an adult resident only. If desired, the survey could be limited to only one kind of person (e.g., the head of the household, if there is one, or his or her spouse). In this case the study would run a larger risk of failing to pick up "first person" data that might be helpful in dealing with special issues and problems for excluded respondent groups, such as older or incapacitated occupants. In any

event, the best approach is to adopt clear-cut selection rules in advance since the survey results may be compromised if it is not clear what kinds of people provided the information.

Present time is not coded because its only use is for field checks on how long interviews take.

Q.4, dealing with school enrollment, refers to any sort of degree- or certificate-granting program but should not apply if the person is taking only informal work of a purely recreational sort.

Page 3 (120) Q. 6, dealing with occupation, is designed to be consistent with U.S. Bureau of the Census coding procedures. The interviewer will write in both an occupational title and a type of employer. This information can generate a three-digit code, using the standard coding guidebooks of the Bureau of the Census for this purpose. Two-digit prestige scores [National Opinion Research Center, 1972], which are well-validated measures of socioeconomic status, could be inserted at the same time. Q. 6 is the first use of an open-ended response item in the questionnaire.

Page 4 (121) This page is used only if the head of household is not the respondent. Many portions of the questionnaire are filtered in the same way.

Page 5 (122) Q. 8: The sum of the numbers in the boxes (Q. 8A through Q. 8D, coded in punch card columns 38-43), plus the respondent, plus a separate head of household if there is one, should equal the number of people in the household given in Q. 1, page 2 of the questionnaire. One line of "other adults" information should be completed for each person noted in column 43 for Q. 8D. In the unlikely event that there are more than five such persons, the interviewer should write the information about the extras in the top and bottom margins of the page and insert a note to warn the editor of the exception. The same technique should be used for all data that do not fit sensibly into the format of the instrument. The questionnaire is designed to serve as an aid and a convenience, but where it does not fit the circumstances of a particular case, additional information should be recorded as needed.

Q. 9: A question that defines the boundaries of the site is included to ensure agreement between interviewer and interviewee as to the exact limits of the development. These comments are not coded. Instead, they would simply be transcribed during the editing process so that the analyst may know what kinds of uncertainties exist about site limits. "Transcribed" is a literal term; it means that any responses for this open-ended item are transferred to a list of all such responses.

Page 6 (123) Q. 10: The month/year code illustrates the need for zero filling. If the first box for the month has a "1" in it for January and the second is blank, the editor has no way of knowing if this is an incorrectly coded January (01) or one of the months October, November, or December

(10, 11, 12, respectively). Most computers would assume the blank to be a zero and would read the code as "10" for October. There probably would be no way to catch this type of error once the data has been read into the computer.

Q. 11: The open-ended "other" category is handled in a fashion similar to that outlined above (see Q. 9) for uncertainties of site definition. The responses are listed during editing so that the analyst acquires knowledge of what kinds of cases there are. If there are very many responses, they can be reclassified and at least one subgroup could obtain a unique code.

Q. 12: The list of reasons for choosing the development were based on the answers frequently given by OBT respondents to CQ item 14. Appropriate probes would include "Is there anything else you recall about why you moved here?" The response categories in the list should not be named in order to avoid putting words in the respondent's mouth.

"Major factor" for a choice is whatever the respondent thinks his or her major reason is; "minor factor" includes anything else the respondent mentions. If the respondent says "no particular reason," this should be so recorded. That is, if the respondent's reasons do not fit the precoded list, the list should not be used; rather, the answer should be written out and left to the editor for treatment. Analysts also can code the "other" reasons that respondents give. These could be sampled from early returns, classified, and later coded.

Page 7 (124) Q. 14A: The phrase "maintain and keep up their places and the area around their homes" refers to both public areas in multifamily buildings and to outdoor areas around houses.

Q. 14B: The open-ended responses on possible problems with maintenance and upkeep illustrate the second level of coding complexity. Problems can be anticipated to some extent and precoded, especially when the target site is known in advance. However, not all respondents would have the anticipated problems. The result is a compromise. No precodes are used; as returns come in, actually reported problems are classified; appropriate codes are then assigned during data reduction. As additional experience is built up with such inquiries, the sophistication of this approach would be refined.

Page 8 (125) Q. 15: "When the weather is right..." is an example of a phrase that should not be defined. If a respondent asks what is meant, the answer to the respondent is "whatever this means to you." This is not a casual or flippant reply. Although respondents' interpretation of the meaning of any survey item can vary, careful pilot work will help to ensure that most items will be so straight forward that no one will be inclined to quibble about them. Note that the possible "no" answer to Q. 15A--meaning "no particular reason"--must be entered in writing

in the space provided for open-ended responses. There is no Q. 15B; often survey instruments violate traditional numbering conventions in order to generate convenient labels.

Page 9 (126) Q. 17: The list of possible items of interest is based on NBS experience; for other applications, special categories might be inserted or unnecessary ones deleted.

Page 10 (127) Q. 19: Improvement of facilities can include references to change in size, design, location, or physical accessibility, as well as improvements in maintenance and safety. "Planned activities" include programs, parties, supervision (e.g., management or parents), security, etc.

Q. 20: Company cars, trucks, motorcycles, etc., may be counted; in general, any motorized vehicle regularly parked by someone in the household should be included.

Page 11 (128) Q. 22: "Services to the elderly" can include such things as group social activities, "Meals on Wheels," 24-hour nursing care, and arts and crafts.

Q. 23: Reading the coding categories to the respondent, in contrast to asking directly for a dollar amount, may make this personal question more acceptable to the respondent. Interviewers should have the respondent indicate the coding category that applies either by presenting the coding categories one at a time and asking for "yes/no" answers, or by asking the respondent to choose and state the applicable identifying number (1, 2, ... 9).

Page 13 (130) Q. 27-29 all allow for possible open-ended responses about where people have had accidents or perceive hazards of some sort. The NBS researchers originally tried using separate codes to record where a problem occurred, what sort of problem it was, and why the respondent was worried. Because of the multiplicity of possible responses, this approach failed. Precoding seems inadvisable. Therefore, NBS recommends that researchers code only the seven or eight most frequently reported problems, using classes derived during code preparation. All other reported troubles would be lumped together in an "other" code. This will increase the usable variation. For Q. 29 the question may apply to others as well as to the respondent. If there is more than one accident, interviewers should record the most recent one. Recall of the event may be better.

Page 14 (131) Q. 31-32 are among the few in this instrument to use a precoded list of more than a few items (also see Q. 89). Two-digit codes allow treatment of up to 99 locations. When "no response was applicable" is to be coded for Q. 31 (i.e., in the left-hand column), the instructions ask that a double blank code (Bk-Bk) be circled to assist the keypuncher, who must skip these two columns. This must be carefully

checked in editing. "Own dwelling" is not in the list because the principal focus is site effects on social interaction; if "own dwelling" is named, treat it as an "other."

Page 15 (132) Q. 34 (as well as Q. 38 on page 17 of the questionnaire) uses a separate card handed to the respondent. This must be printed in advance and supplied to each interviewer. The use of cards is a common technique. It allows the respondent to look over a list of potential responses before giving his or her answer.

Page 16 (133) Q. 36: As with accidents (see Q. 29), if there is more than one incident, interviewers should code the most recent. The coding for crimes or threats should follow the sample-the-answers-and-classify-them procedure advocated in this report. Detailed crime coding schemes, such as those used by the FBI, should not be used. These require distinctions which cannot be made reliably without a good deal of expert assistance and extra work.

Page 17 (134) Q. 37A: An "entry door" is the door at which deliveries are usually made and where strangers would come.

Page 18 (135) Q. 39 is a good example of a set of similar questions, repeated for a series of places, rooms, or other things. The entire query should be repeated until the respondent is familiar with the question in its entirety.

Q. 40: Note that there is no "not applicable" code; the "not important" code serves this function here.

Page 19 (136) Q. 41: If there is no fixed, regular pattern for sleeping hours (for example, a policeman working changing shifts), then this should be noted and left for the editor to handle. In short, if none of the precoded responses fit the respondent's reply, then the interviewer should not use the precoded responses. Instead, the respondent's answer should be written in.

Page 20 (137) Q. 46-48 are examples of data that could be obtained without inquiries to the respondent, should site and unit data be available in advance. As a general rule, factual items can be omitted from interviews--unless there is a specific reason for wanting respondents' perceptions of the facts. Answers can be obtained using independent measures so long as such measures are available and their use does not result in a net increase in the costs for field work. For Q. 48 a unit may turn up on a basement level (other than a level 01). In such cases no number code should be assigned. If the information is written in, the coders can assign a code later. "Official" floor numbers should be used; e.g., if the real 13th floor is called "14," the code would also be 14 and code 13 would not be used for the building.

Pages 21-22 (138-139) Q. 53: Note that the second page of items (page 22) uses slightly altered items; the question about built-in lighting (no. 2 on page 21) has been deleted and a new item inserted that asks if the unit has this type of room or not (no. 1 on page 22). Also, both columns "D" (other bathrooms) and "F" (other bedrooms) apply to all extra bathrooms and bedrooms; all other columns refer to one room and one room only.

Page 24 (141) Codes for Q. 57 are combinations of the most frequently reported pairs, e.g., "bedroom to study" or "dining room to bedroom."

Page 25 (142) Q. 62 asks the respondent, "Who is mainly responsible?" The categories focus on the personal involvement and familiarity of the respondent with certain typical housekeeping and upkeep chores. If alternative or additional answers are recorded, codes can be assigned for these answers later. If these additional answers do not address the respondent, they can be coded "3" to indicate an "other answers" category.

Page 26 (143) Q. 64-66 uses both the "don't know" and "not applicable" response categories. "Don't know" means that the respondent did not answer Q. 64-66 because he or she had not used or was otherwise unfamiliar with a facility, such as a community room, available on site. "Not applicable" means that the respondent could not provide an answer because a facility or area mentioned in Q. 64-66 was not part of his or her site or building.

Page 27 (144) Q. 68: The coding categories under "elsewhere in the building" refer to noises arising from the use of these facilities.

Page 28 (145) Q. 70 deals with privacy. The "do not probe" instruction reflects this. In a study of housing it is inappropriate to press for information of this kind.

Q. 72: Depending on the survey objective, the time frame can be adjusted in several ways. For example, researchers can adopt a constant time period (as NBS has done) or a constant base year (e.g., "How many times have you moved since 1970?").

Page 29 (146) Q. 74: If utilities are included in the rental payment, researchers can use either "999" (the "don't know" code) or a special code (e.g., 997) to designate that utilities are included in the rental payment.

Q. 75: This is another piece of information that may be obtainable without asking the respondent. This question asks for the full purchase price, not just for the down payment.

Q. 76: If a particular person is named, interviewers should record the information verbatim. Names can be rechecked later for assignment of codes.

Page 30 (147) Q. 79 will tell interviewers who the respondent believes is responsible. If, however, they want to know who the actual responsible individuals are, they can get this information through the field staff without asking the respondent. The use of field staff to obtain "objective" information also could apply to Q. 83, page 31, about innovations in building materials or in construction methods, and to other questions.

Page 32 (149) Q. 85-86 are provided with single-column codes. Thus, two most liked features and two most disliked features can be coded. Alternatively, two-digit codes could be developed, but then only a single like and a single dislike could be coded. In conjunction with the response to Q. 12, these answers help establish whether a respondent's expectations were fulfilled or unfulfilled.

Page 33 (150) Q. 89A: All of the coding categories with two exceptions refer to some aspect of the current residential environment. The two exceptions are "building or buying another home" and "moving out for personal reasons." These two categories are used only if the respondent's answer in no way links house-buying or personal reasons to opinions about the current residential environment.

In Q. 89B "buying" may include sole ownership, condominium ownership, and cooperative ownership. If these distinctions are important to the study, the question should be rewritten accordingly.

Planners may find it useful to reduce the large number of response categories in Q. 89A if they find, as NBS did in the study of OBT residents, that the predominant reasons for moving out were personal reasons. However, researchers should take care in recoding these categories. Recodes can become too broad, hence ambiguous.

Pages 34-36 (151-153) The interview ends with Q. 90. The remaining items, Q. 91-100, are completed by the interviewer. They cover the type of household, the respondent's physical condition and race, and the interview itself. The single code box on page 36 is provided for a machine-readable identifier for unusual cases, so that they can be flagged and processed accordingly.

CHAPTER 6: THE EXIT QUESTIONNAIRE

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CHAPTER 6: THE EXIT QUESTIONNAIRE

PURPOSE

The researchers felt that the Core Questionnaire (CQ) alone might not provide an accurate occupant evaluation of Operation Breakthrough (OBT) housing. Perhaps occupants completing the CQ would be reluctant to discuss problems concerning the OBT management if they feared management reprisal. Thus, the Exit Questionnaire (EQ), a 28-item questionnaire, was designed for telephone interviews with OBT occupants who had made a binding commitment to move out or who had relocated.

The purpose of the EQ was to get opinions from people who, because they were free of OBT management, were likely to be honest when talking about problems with OBT housing. Also, this questionnaire allowed a comparison of the opinions of ex-occupants with those of current OBT occupants. Similar results would imply that the researchers' concerns about OBT occupants were probably unjustified.

DESCRIPTION OF THE QUESTIONNAIRE

Content

The EQ asked about (1) the type of housing to which the respondent was moving and the type of tenancy in this new housing; (2) what the respondent wanted from residential housing and whether it was provided by OBT housing; (3) reasons for choosing OBT housing as a home and what the respondent currently liked and disliked most about the OBT experience; (4) overall satisfaction with OBT housing, the housing site, and the management; and (5) the principal reasons for the decision to move out. The interviewer also obtained descriptive information about the respondent, the respondent's household, and the respondent's OBT housing.

The "reasons for the decision to move" (EQ item 18) was the focal question. Specifically, through this question researchers tried to find out if people were relocating due to dissatisfaction with the OBT residential environment or due to non-OBT-related factors.

Format

Of the 28 items on the EQ, 14 are addressed to the respondent (EQ items 8-21). Of these 14 items, 4 are precoded, 8 are open ended, and 2 multiple-part items have both open-ended and precoded components. Answers to the remaining 14 items (EQ items 1-7, 22-28) are obtained from sources other than the respondent.

The Research Instrument

The EQ begins on p. 168. An item-by-item comparison, in table 11, shows how similar the EQ is to both the CQ and the rev. CQ. Although the content of the EQ in this chapter and that of the original EQ are identical, the EQ in this

Table 11. Item-by-item comparison of the EQ with the CQ and the rev. CQ.

Topic	Item Number[a]		
	EQ	CQ	Rev. CQ
Name of respondent	1	CS	CS
Name of head of household	2	*	*
Respondent's address	3	CS	CS
OBT development name	3	CS	CS
Respondent's telephone number	4	CS	CS
City	5	CS	CS
Housing system producer/manufacturer	6	217	*
Housing type	7	2	CS
Relocation validation	8	199	[89A]
Duration of occupancy	9	10,11	10
Address, city when relocated	10	*	*
Housing type when relocated	11	*	89B
Tenancy when relocated	12	*	89B
What the respondent is looking for in housing and whether it was provided at OBT	13	*	[89B,88B]
Why OBT was chosen	14	14	12
Most liked about OBT experience	15	192	85
Most disliked about OBT experience	16	193	86
When decision to relocate was made	17	*	*
Reason for relocation	18	200	89A
Overall satisfaction with			
Dwelling unit	19	194	87A
Housing site	19	195	88A
Management	19	188	82
Household size, age of members	20	4,5-7	1,8
Information about head of household	21a-e	5-7B-E, 106-110	7B
Income	21f	201	23
Interviewer and appointment information	22,23,25	CS	CS
Duration of interview	24	3,204	pgs. 2,3,4
Noninterview	26	218	CS
Evaluation of the interview	27,28	209,210	97,98

[a] Code

CS = Cover sheet

* = Not applicable

[] = Shares similar content; item wordings are not identical.

chapter differs in minor ways. For example, the original was five pages long; the present copy is six pages long. Furthermore, the coding boxes of the original had column numbers and item numbers; much of this detail has been removed from the present copy.

DESCRIPTION OF THE STUDY

Research Considerations

The EQ was field tested with 15 households during two pilot studies in August 1973. Shortly thereafter, the names of 78 relocating households were secured from OBT site management, and the telephone interviews were conducted between December 1973 and March 1974. Sixty of the 78 households could be reached by telephone; all agreed to be interviewed. Of the 60 households, 6 had moved from one OBT unit to another at the same development. (Unfortunately, in the statistical analyses these six cases were not treated separately.) The 18 noninterviewed households either had no telephone, had an unlisted telephone number, or had left no forwarding address. The telephone interviews took 10 to 15 minutes and were conducted by a single interviewer.

Results

A general feel for the results can be obtained by comparing the 60 EQ respondents' answers with those of 614 CQ respondents from three OBT developments: Indianapolis, Kalamazoo, and Macon. These three OBT developments accounted for 85 percent of the 60 EQ respondents and 41 percent of all the CQ respondents.

Because EQ interviews took place between December 1973 and March 1974, and CQ interviews took place during January and February 1974, some respondents may have participated in both interviews. Unfortunately, the premature discarding of a file made exact crossfile matching impossible. Consequently, the exact number of respondents common to both studies is unknown. However, the researchers calculated that no more than 11 percent of the CQ respondents at any site also completed an EQ.

Answers to questions common to the EQ and the CQ (table 11) were compared. For these comparison the 60 EQ respondents were compared with all 614 CQ respondents because there had been no cross-tabulation of intention to relocate (CQ item 199) with the items in common in table 11. Of the 614 CQ respondents, 53 percent said they were certain to or probably would move out (EQ item 199).

In spite of differences in item wordings, in coding categories, and in research techniques, the responses to common items on the EQ and CQ are similar, especially the rankings of answers (table 12). For example, among CQ respondents who expressed an intention to move out (CQ item 199), the first and second ranked reasons were (1) personal reasons unrelated to the OBT experience, such as changing one's job, and (2) lack of space inside or outside the home. Among EQ respondents the first and second ranked reasons (to EQ item 18) were (1) personal reasons unrelated to the OBT experience and (2) reasons that emphasized finding a more desirable dwelling elsewhere. The latter included

Table 12. EQ respondents' reasons for deciding to move from OBT dwelling units and/or sites.[a]

Reasons	Frequency of Mention	
	Number	Percent[b]
Job related--promotions, transfers, job changes, better job opportunities, locale or home closer to work.	13	22
Found more desirable dwelling elsewhere--cheaper, larger, preferred building type, better constructed, better heated, more healthful humidity conditions, home with a yard.	13	22
Prefer owning to renting a home; OBT site has only rental units.	10	17
Completed higher education at nearby university.	8	13
Change in marital status.	8	13
Children's behavior adversely affected by peers on site.	2	3
Desire to be closer to friends or parents.	2	3
Respondent disabled--needs quiet; former apartment on same site noisy because located below large unit with children.	1	2
Respondent "got into trouble;" management asked him/her to leave the site.	1	2
Maintenance requests unheeded for inordinately long periods of time.	1	2
"Arbitrary" management constantly overrode policies established by coop tenants.	1	2
Totals	60	

[a] Six respondents had moved from one residence to another within an OBT site.

[b] Refers to percent of all reasons given, not of respondents who gave the answers.

a lack of space. But there were also dissimilarities in rankings of reasons for relocating. The clearest example was that EQ respondents more often than CQ respondents mentioned a preference for owning a home over renting one.

Nevertheless, most comparison of EQ and CQ results showed similar responses. For example, when asked their reasons for initially selecting an OBT development (EQ item 14, CQ item 14), the top five ranking reasons for both groups were the same, and the agreement in ranking was near perfect. The reasons focused on financial considerations; site location; site features; dwelling unit size, layout and appearance; and occupant characteristics.

Comparisons revealed that the EQ and CQ respondents also agreed on the most liked aspects of

1. The dwelling unit--room size and cost;

2. The site--landscape/scenery, parking, recreation facilities, traffic, and occupant characteristics; and

3. The development's management--management characteristics and their maintenance of the grounds.

(EQ item 15, CQ item 192)

There was also reasonable agreement about what was most disliked about

1. The dwelling unit--quality of construction, appliances, and mechanical and plumbing systems;

2. The site--parking; and

3. The management--management characteristics and maintenance by management. (Management had both its proponents and its opponents.)

(EQ item 16, CQ item 193)

The similarity of results allayed concerns that fear of management reprisals significantly influenced CQ respondents' opinions. This fear was one reason why data confidentiality was strictly observed. Furthermore, the reasons given for relocation did not indict OBT residential environments. Instead the reasons were usually unrelated to experiences with the OBT developments.

SUGGESTIONS ABOUT CONTENT AND USE

Content and Format

1. Item wordings and coding categories shared by the EQ and CQ should be coordinated to provide more meaningful item comparisons. However, this coordination should be sensitive to the requirements of face-to-face versus telephone interviewing. The EQ interviews were conducted by telephone; the CQ interviews were face-to-face.

2. The EQ need not be a short CQ. For example, the EQ could address relocation-related topics in greater detail than does the original or revised CQ.

3. For general use, questionnaire material linked exclusively to OBT should be removed (e.g., EQ items 5 and 6). The EQ items about the site itself assume that the site is a planned unit development.

4. The coding category "moving to another dwelling unit within the same development" should be added to EQ item 10. Ten percent of the interviewed households had done just that.

5. Boxes for coded answers to EQ item 17 should be added to the EQ if this information is needed in the survey.

Use

1. The premature discarding of a file necessary for exact crossfile comparisons underscores the importance of document control. Document control bears on all aspects of the survey procedure, although it is usually mentioned only concerning the movement of questionnaires from the main office to the field and back to the main office.

2. Had the researchers been able to directly compare the questionnaire responses of those respondents who completed both the EQ and CQ, they could have measured, however crudely, the reliability of their answers to common items administered at different but relatively close points in time. Determining the reliability of an instrument (or even of some of its items) is important to the proper use and interpretation of its results. If researchers cannot measure the reliability of answers by asking the same question at different points in time, they can increase the chances of getting reliable results by choosing respondents with stable opinions. Respondents who are knowledgable about and involved with the topics in the questionnaire are likely to have stable opinions on these topics [Kunreuther, Ginsberg, Miller, Sagi, Slovic, Borkan, & Katz, 1978].

Exit Questionnaire

FILE
1 2

EXIT QUESTIONNAIRE

"
3

1. Name of respondent _____ Q3

NUMBER

2. Name of Head of Household _____

3. Address _____

STREET

_____

OBT Development Name _____

APARTMENT

4. Telephone _____ "

5. Site: (Circle one) Q5

17

Indianapolis	1
Jersey City	2
Kalamazoo	3
Macon	4
Memphis	5
St. Louis	6
Sacramento	7
King County	8
Seattle	9

6. HSP: (Circle one)

18 19

Alcoa	01	Levitt	11
Boise Cascade	02	Material Systems	12
Building Systems	03	National Homes	13
Camci	04	Pantek	14
Christiana Western	05	Pentom	15
Descon/Concordia	06	Republic Steel	16
FCE-Dillon	07	Rouse-Wates	17
General Electric	08	Sholz	18
Hercoform	09	Shelly	19
Home Building	10	Townland	20
		TRW Systems	21

Q7

7. Type: (Circle one)

20

Multifamily high-rise	1
Multifamily low-rise	2
Single-family attached	3
Single-family detached	4

8. We understand you are moving. Is this correct? Yes or No
(if no, do not complete questionnaire)

Q9

9. How long have you lived here? _____yrs. _____mos. YRS [ ] (21) MOS [ ][ ] (22 23)

10. Where did you decide to move? _____Does not know.

Address _____ City _____ State _____ [ ] (24)

11. What kind of housing unit are you moving to? (Circle one) [ ] (25)

1. Multifamily high-rise (more than four stories)
2. Multifamily low-rise (four stories or less)
3. Single-family attached (townhouse, duplex, triplex, etc.)
4. Single-family detached (a home by itself)
5. Mobile home
6. Moving in with relatives
7. Other (specify) _____

12. Will you be owning or renting? (Circle one) [ ] (26)
(if answer is owning, ask:)
Will it be cooperative ownership? (Circle one) Yes No

13. What are the two or three most important things that you are looking for in housing?

Q13

1. _____ (1) [ ][ ] (27) [ ][ ]

_____

2. _____ (2) [ ][ ] (31) [ ][ ]

_____

3. _____ (3) [ ][ ] (35) [ ][ ]

_____

(Complete the following by circling yes or no)

4. Was (read Item 1 above) provided here? Yes No (4) [ ] (39)

_____

_____

_____

5. Was (read Item 3 above) provided here? Yes No (5) [ ] (40)

_____

_____

_____

(6)

6. Was (read Item 3 above) provided here? Yes No

41

Q14

14. What was there about (OBT development name) that led you to choose this place for your home?

42 46 50 54

SAMPLE 76 CARD 1 80

FILE 1 2

15. Now that you have lived here, what are the things you liked most about (OBT development name)?

Q15

3 7 11 15

16. What are the things you dislike most about (OBT development name)?

Q16

19 23 27 31

17. When did you decide to move? _____

18. All things considered, what was the one thing that made you decide to move?

Q18

35

19. Now that you've decided to move and will be moving out of your present home, when you think about your experiences here, overall, were you satisfied or dissatisfied with...

(a) your apartment/home? Satisfied_____ Dissatisfied_____
(5) Other_____ (9) No answer _____

(Depending on answer)

Would you say you were:
(1) Very well satisfied _____ (2) Somewhat satisfied _____

Would you say you were:
(3) Very dissatisfied _____ (4) Somewhat satisfied _____

Q19 (a) 39

_____

_____

_____

(b) Were you satisfied or dissatisfied with the housing site, that is the grounds, the community facilities, parking, play areas, and the like? Satisfied _____ Dissatisfied _____
(5) Other _____ (6) No asnwer _____

(Depending on answer)

Would you say you were:
(1) Very well satisfied _____ (2) Somewhat satisfied _____

Would you say you were:
(3) Very dissatisfied _____ (4) Somewhat dissatisfied __

(b) 40

_____

_____

_____

(c) Were you satisfied or dissatisfied with the management?
Satisfied _____ Dissatisfied _____
(5) Other _____ (9) No answer _____

(Depending on answer)

Would you say you were:
(1) Very well satisfied _____ (2) Somewhat satisfied _____

Would you say you were:
(3) Very dissatisfied _____ (4) Somewhat dissatisfied __

(c) 41

_____

_____

_____

Q20

20. How many people, related to you or not and including children, live in your household? _____ 42

a. How many people under 17 years old live here? _____ (a)
b. How many people over 62 years old live here? _____ (b)

21. (Questions about the head of the household.)

a. What age is (are you?) Mr. (or Ms.) (name of head of household)? Q21

_____ (a) 46

b. (Do not ask unless necessary) What sex is head of household?

_____ (b) 48

c. What race is (are you?) Mr. (Ms.) (name of head of household)?

_____ (c) 49

d. 1. What kind of work do you (or, does Mr. head of household) normally do? That is, what is (your/his) job called?

OCCUPATION: _____ (d) 50

2. IF NOT ALREADY ANSWERED, ASK: What (do/did) you (or he) actually do in that job? Tell me, what (are/were) some of your (or his) main duties?

PRESTIGE SCORE 53

_____

_____

_____

3. What kind of place (do/did) you (or he) work for?

INDUSTRY: _____

4. IF NOT ALREADY ANSWERED, ASK: What (do/did) they (make/do)?

_____

e. Do you (Does he/she) have any college degrees?
(If yes: What degree?) _____
(If no: Did he/she ever get a high school diploma?) _____ (e) 55

f. Can you tell me, for last year, what the total family income was before taxes? _____

(If respondent does not give answer, ask:)

If I read a list of income groups, can you tell me which group is right? (f) 56

It is:

1.	Under $2,000	8.	Under $17,900
2.	Under $4,000	9.	Under $20,000
3.	Under $6,000	10.	Under $25,000
4.	Under $8,000	11.	Under $30,000
5.	Under $10,000	12.	$30,000 or over
6.	Under $12,500	13.	Refused
7.	Under $15,000	14.	Don't know
		15.	No Answer

Q22

22. Interviewer Code _____ 58

23. Date of Interview _____ 59

24. Time of Interview: Start: _____ a.m. p.m. 64
Stop: _____ a.m. p.m.

Q25

25. Number of calls: _____ 68
time _____ _____ _____
date _____ _____ _____

26. Reason for non-interview: (Circle one) 69

(1) No answer
(2) Telephone out of service
(3) No primary individual present
(4) Refused
(5) Other (Specify) _____

27. In general, the respondent's attitude toward the interview was: (Circle one) 70

(1) friendly and eager
(2) cooperative but not particularly eager
(3) indifferent and bored
(4) hostile
(9) No answer

Q28

28. The respondent's understanding of the interview as: (Circle one) 71

(1) good
(2) fair
(3) poor
(9) No answer

SAMPLE 76

FOR OFFICE USE
Sample Number _____

CARD 2 80

CODED BY: _____

CHAPTER 7: THE SITE VISITOR QUESTIONNAIRE

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CHAPTER 7: THE SITE VISITOR QUESTIONNAIRE

PURPOSE

Like the Exit Questionnaire, the Site Visitor Questionnaire (SVQ) was designed to complement the perspective of the Core Questionnaire (CQ). The SVQ was a one-page, self-administered questionnaire for visitors to model homes at OBT developments. While the CQ asked for an occupant's evaluation of OBT housing and sites, the SVQ was intended to provide a consumer's perspective. The SVQ was not intended to determine the characteristics of prospective buyers or renters. In fact, the SVQ was not designed to followup prospective buyers or renters since all SVQ's were completed anonymously. Visitors, as consumers, were regarded as reasonable sources of "first impressions" unaffected by a prior commitment to live in an OBT unit.

DESCRIPTION OF THE QUESTIONNAIRE

Content

The SVQ asked visitors for their opinions about (1) inside the dwelling; (2) outside the dwelling, including the house itself, the area in the immediate vicinity of the house, and the development; and (3) the neighborhood surrounding the development. The SVQ also collected general and personal information about the respondents and their households.

Format

The SVQ was developed to be self-administered in 2-3 minutes by most respondents. It was designed to measure opinions and to apply to all OBT model units and sites. Self-administration and brevity were necessary because the site visitor survey was not to interfere with the work of the sales and rental agents. The cooperation of these agents was necessary if the study of visitor opinions was to be successful. The SVQ did not ask the respondents which model they were rating. Other persons recorded the model unit which each completed SVQ evaluated. In the pilot study, assistants performed this task; in the full-scale study, sales and rental agents did so.

Respondents recorded their opinions about the model units, sites, and surrounding communities by marking the one box of five that corresponded to their overall opinion. The five options ranged from "very good" through "very poor." If they could not or did not wish to state an opinion, respondents were instructed to mark "don't know."

All respondents remained anonymous. In order to encourage the respondent to distinguish the research project from the marketing activity, the SVQ did not request personally identifying information (e.g., name, address, phone number). The researchers hoped this separation would make the survey more acceptable to potential respondents.

The Research Instrument

The SVQ appears at the end of this chapter. Slight physical differences in type face and in space provided for the specific answers distinguish this version from the original.

DESCRIPTION OF THE STUDY

Research Considerations

The first site visitor study was a pilot study. Using an early version of the SVQ, the pilot study took advantage of a well-publicized weekend open house in October 1972 at the Sacramento development. Since large crowds were expected to visit the models, five assistants were trained to select eligible respondents and ask them to complete a questionnaire. A visitor was an eligible respondent if he or she was at least 17 years old and had just completed a tour of a model unit. However, if a family had toured a model unit together, only one member could be asked to be a respondent. Based on questions that respondents asked assistants, researchers concluded that the questionnaire had been successfully designed for self-administration. The five assistants covered the same 10 units on each of two days, moving between assigned units on a predetermined schedule. On the first day an 11th model was inadvertantly covered; on the second day it was dropped. Some assistants required constant supervision to ensure that they maintained their schedule and the quality of their performance.

Based on this pilot study, researchers modified the SVQ. The full-scale study used the resulting, final version. This study, although aimed at all eight OBT sites, was not planned as a major study. To keep expenses to a minimum, site personnel and sales and rental agents conducted the full-scale study, without onsite supervision or in-person training. Furthermore, visitor opinion was collected without regard to an OBT development's marketing plan or stage of occupancy. Under these conditions, the researchers did not expect a representative sample of visitors or of visitors' opinions about OBT housing and sites.

The full-scale study, launched in February 1973, was targeted for completion in May 1973. By the May deadline only four of the eight OBT developments had returned any completed questionnaires (194 SVQ's), which was about one-half the number (406 SVQ's) collected during the pilot study. There were three reasons for the low response rate. First, three developments had negligible visitor flows because their marketing efforts were essentially over. Second, other sites were affected by adverse weather conditions (e.g., rain) on days when large flows were expected. Third, some site personnel regarded the SVQ as an interference with the marketing effort or felt that conducting the study took time away from more urgent job tasks. Looking back, the researchers feel that if there had been onsite National Bureau of Standards supervision and training of site personnel and marketing agents, interest in the study and cooperation with its aims may have been greater.

Results

The pilot study respondents in Sacramento rated favorably the overall quality of the 10 models evaluated, the appearance of the housing, the location of play areas, the safety and security on the development, and the access to public transportation. The cost of the units was acceptable. However, the majority of respondents were not in the market for a new home.

The multifamily rental units received higher ratings than did the single family sales units. The rental units, which were in multifamily high rise and low rise buildings, had been set aside for senior citizens; thus, the visitors to rental units tended to be older than the visitors to the sales units. This confirmed the finding in the CQ study that elderly respondents tend to express more favorable opinions about the residential environment than younger respondents.

In the full-scale investigation of visitor opinion, four of eight developments returned 194 completed SVQ's. Indianapolis returned 12 completed SVQ's. At the developments in King County, Macon, and Sacramento only 5 of the 20 model units received at least 10 evaluations. A summary of such results is not informative. Of greater interest are the results of an exploratory comparison of SVQ and CQ responses. There were instances of similar opinions toward the same targets, both for developments and for housing systems. For example, the most direct comparison involved opinions toward developments. Visitors' overall opinion of the development for the four developments in the full-scale visitor study were compared with occupants' overall satisfaction with the same sites (CQ item 195). The rank ordering of overall evaluations of the two groups of respondents agreed for three of the four sites. The fourth site, however, was top ranked for one group of respondents and ranked last for the other group.

These comparisons are exploratory and the results tentative. Because there were no explicit plans to compare the SVQ and CQ at the time the SVQ was developed, researchers did not attempt to make the two questionnaires comparable. Also, because SVQ's were completed anonymously, the researchers cannot tell whether any SVQ respondents completed more than one SVQ or became OBT residents of developments they had visited. Therefore, important differences between the visitors' and occupants' studies have been handled by assumption. For example, SVQ opinion items with five response categories and CQ items with four have been weighted to make resulting statistical measures comparable. These tentative results suggest that visitors and occupants, in spite of differences in their relationship to OBT housing systems and sites, had similar opinions about them.

SUGGESTIONS ABOUT CONTENT AND USE

Content and Format

1. The SVQ items were not identical with corresponding items on the longer questionnaires, especially the CQ. To facilitate comparisons of the SVQ with other questionnaires, differences in item wording and response categories should be eliminated.

2. Recommended content revisions include the following:

   a. Changing "adequacy of baths" to "adequacy of bathrooms";

   b. Separating the topics of safety and security;

   c. More clearly distinguishing, in the section "outside the home," the items on dwelling-site relationships from those on the site and its features; and

   d. Changing "don't know" to "no opinion" or "can't say."

3. Whether the SVQ (or any questionnaire) should be completed anonymously must depend on the survey's objectives, the conditions of field work, and the planned use of the results (e.g., the comparison of results from different questionnaires about a specific housing system or site). In Project Feedback the SVQ was completed anonymously to separate it from associated, but independent, marketing programs. On the other hand, the Work Order Form was not completed anonymously for reasons explained in chapter 8.

Use

1. The appropriateness of different survey sampling strategies, such as time sampling [Kish, 1965, pp. 474-477], should be investigated if the following two factors exist:

   a. Different market segments will be emphasized at different stages of the marketing effort, and

   b. Researchers wish to sample from all the market segments visiting a development.

2. In the pilot survey, site visitors could have completed an SVQ at each model they visited. The SVQ's were completed anonymously, thus if respondents completed SVQ's for more than one model, this introduced an unknown degree of statistical dependency into comparisons of opinions of different models. For this reason, this practice was discontinued during the full scale survey. If researchers want to compare the same respondents' impressions of different houses, they must be able to identify the respondents. Just as important, they must carefully consider how visiting many houses, the order of the visits, and opinion measurement on many occasions

will affect particular attitude statements. Unless researchers can resolve the theoretical issues and can implement the proper research design and statistical analysis procedures, they should use one questionnaire per site visitor.

Site Visitor Questionnaire

My opinions about this home and this housing site are

MARK THE BOXES WHICH BEST DESCRIBE YOUR OVERALL OPINION. IF YOU CAN'T ANSWER AN ITEM, MARK, DON'T KNOW. IF YOU HAVE ADDITIONAL COMMENTS, PUT THEM ON THE BOTTOM OR BACK OF THE PAGE

		OVERALL OPINION					
		VERY GOOD	GOOD	AVER-AGE	POOR	VERY POOR	DON'T KNOW
INSIDE OF HOME	SIZE OF ROOMS						
	ADEQUACY OF STORAGE, CLOSETS, CABINETS						
	ADEQUACY OF KITCHEN						
	ADEQUACY OF BATHS						
	WORKMANSHIP						
	ROOM ARRANGEMENT						
	OVERALL OPINION OF HOME INTERIOR						
OUTSIDE OF HOME	APPEARANCE OF BUILDING FROM OUTSIDE						
	ADEQUACY OF BALCONY OR YARD						
	LOCATION OF RECREATION AND PLAY GROUNDS						
	WALKWAYS, GRASSY AREAS, AND TREES						
	SECURITY AND SAFETY						
	LOCATION OF PARKING						
	OVERALL OPINION OF THIS DEVELOPMENT						
NEIGHBOR-HOOD	CONVENIENCE OF SHOPPING						
	QUALITY OF SCHOOLS						
	ACCESS TO PUBLIC TRANSPORTATION						
	OPINION OF THIS PART OF TOWN						

GENERAL

ARE YOU NOW INTERESTED IN RENTING OR BUYING A HOME? RENTING☐ BUYING☐ NOT INTERESTED☐

ARE YOU INTERESTED IN RENTING OR BUYING THIS HOME? YES☐ NO☐ DON'T KNOW☐

IS THE SALES PRICE OR RENT ACCEPTABLE TO YOU? YES☐ NO☐

HOW DOES THE PRICE/RENT COMPARE TO YOUR PRESENT HOME? LOWER☐ ABOUT THE SAME☐ HIGHER☐

HOW DID YOU FIRST LEARN ABOUT THIS DEVELOPMENT? PASSING BY☐ RADIO/TV☐ PAPER☐ FRIENDS☐
OTHER (Specify)_____

I AM

FEMALE☐ MALE☐

AGE: TEEN☐ 20-39☐ 40-59☐ 60+☐

NO. IN PRESENT HOUSEHOLD 1☐ 2☐ 3☐ 4☐ 5+☐

OCCUPATION (Specify) _____

I NOW: RENT ☐HOUSE ☐APT ☐OTHER(Specify)_____ OWN ☐HOUSE ☐APT ☐OTHER(Specify)_____

ADDITIONAL REMARKS

THANK YOU

HOUSE NO.: _____ DATE: _____

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CHAPTER 8: THE WORK ORDER FORM

PURPOSE

Although Project Feedback originally intended to measure the physical, economic, and behavioral aspects of Operation Breakthrough (OBT) housing, the final scope of the study was much more narrow. Thus, the Work Order Form was Project Feedback's only chance to evaluate physical performance. This form was used to record occupants' requests for repairs of dwelling units, and management's determination of the nature, location, and cause of needed repairs.

DESCRIPTION OF THE QUESTIONNAIRE

Content

The form has three sections. The top section addresses the complaint or problem; the middle section deals with the consequent repairs; and the third section offers the repairperson or management a chance to make additional comments. There are 26 items, 23 of which are control items, such as who made the request and who received it, the resident's name and address, when the requested repairs were started and when they were completed, and whether the cost of the repairs was covered by a warranty or whether it was to be paid by the resident. The remaining three items deal with (1) the complaint itself, (2) the work description, which includes the nature of the repairs, and (3) the cause of the problem. The latter two, both in the middle section, were to be completed by the repairperson.

Format

The Work Order Form was prepared as five sheets: an original (cover sheet) and four color-coded carbon copies. The color identified to whom a copy was sent. The resident making the request, the development's management, and the U.S. Department of Housing and Urban Development (HUD) were among the recipients. Researchers identified the development at which the form was completed by printing identifying names for each development in the upper left hand corner of the form.

The Research Instrument

A page from one Work Order Form and the instructions mailed for its use appear at the close of the chapter. The instructions have been edited for readability for this case study.

DESCRIPTION OF THE STUDY

Research Considerations

Following a 2-month pilot study, there was an 8-month data collection period (mid-April through mid-December 1973). During data collection, seven of eight occupied developments, representing 1,224 occupied dwellings units, forwarded 5,324 completed work orders to HUD.

At the start of the pilot study, Work Order Forms and instructions for their use were mailed to the management of occupied OBT developments. The mailed instructions were the basis for training site management and repairpeople in the use of the form. Throughout the pilot and regular study completed forms were returned to HUD monthly, and additional forms were mailed by the researchers to participating developments.

The top section of the form was completed when management received a repair or maintenance request. This section could be completed by the resident or by management. As a rule, management completed it. The request was the basis for sending a repairperson to assess and treat the problem. The remaining sections of the form were to be completed following repairs, by the repairperson or by management based on a report from the repairperson.

Management kept copies of all Work Order Forms from their development and found the information useful for management and control. This may have been their incentive to pursue this study since management was not given financial aid for this purpose.

Coding

Six items of information from the Work Order Form were selected for coding and statistical analysis:

1. The date of the report,

2. The development that forwarded the form,

3. The complainant's address (which, through a crossfile reference, was used to establish the housing system producer),

4. The dwelling unit space in which the reported problem was located,

5. The nature of the reported problem, and

6. The housing element involved in the reported problem.

Codes for items 4, 5, and 6 were derived from the statements in the work description section. The complaint and cause sections were not used as sources of information about the nature of the problem for two reasons. First, management usually made no attempt to reconcile discrepancies between information in the complaint section and in the work description section. Under these conditions, the investigators chose to rely on the description of the problem by the repairpersons rather than by the resident. Second, the cause section either was incomplete or had inadequate information. Consequently, this item was not used.

Codes for the dwelling unit space (table 13) and the nature of the housing problem (table 14) were developed from information in the work description section. By contrast, the housing element code (table 15) was created by

Table 13. The work order code for dwelling unit space.

01	Entrances
02	Hallway
03	Living room
04	Dining room
05	Living/dining area
06	Family room
07	Kitchen
08	Bedroom or den
09	Bathroom or lavatory
10	Stairway within a dwelling unit
11	Indoor storage, trash, or garbage disposal areas
12	Basement
13	Attic
14	Crawl space
15	Utility area/mechanical room
16	Lobby
17	Elevator
18	Public hallways in apartment buildings
19	Public stairways in apartment buildings
20	Entire interior of a dwelling unit
21	Exterior surfaces of a dwelling unit
22	Patio/porch
23	Balcony
24	Yard
25	Garage/carport
26	Entire upstairs or downstairs of a dwelling unit
27	Kitchen/family room area

Table 14. The work order code for housing problems.

01	Inoperative, works improperly, doesn't work
02	Miswired or misconnected
03	Improperly adjusted or installed
04	Missing, falling or fallen off or down
05	Wrong size or ill-fitting
06	Loose
07	Cracked, delaminated, has large hole
08	Marred, scratched, worn off, chipped, has nail or burn hole, damaged, piece missing
09	Disconnected, off the track (pertaining to doors or windows)
10	Leaking gas or dripping water
11	Burned out (bulb or appliance elements), worn out
12	Needs recaulking or resealing
13	Torn or broken
14	Noisy or squeaks
15	Wet or damp
16	Mismatched
17	Freezing up
18	Defective
19	Water or oil pressure improperly regulated or provided for
20	Dirty, stained, spotted, sloppy appearing, unfinished
21	Buckling, warped, sagging, bent
22	Overheated
23	Shorting
24	Rusty or moldy
25	Exposed, unwrapped, uncovered wires or pipes
26	Nail pop
27	Clogged, plugged, obstructed, jammed
28	Unsupported or inadequately supported
29	Inadequately graded
30	Overloaded
31	Needs cutting
32	Lacks adequate insulation
33	Dead
34	Undercharged

Table 15. The work order code for housing elements.

	General Housing Element	Examples
01	Structures	Foundations, beams, intramodular connections
02	Walls	Wall covers (tile, formica, etc.), molding
03	Doors and windows	Viewer, screen, track, sill, or threshold
04	Floor and ceiling	Covering (carpet, tile, etc.), molding
05	Hardware	Door knobs, hinges, strike plate, woodwork on stairways, electric switches, all plates
06	Fixtures	Sink, bathtub, shower stall, toilet, light fixtures, and their components
07	Plumbing, heating, and ventilating equipment	Air conditioner, duct, furnace, hot water heater, and their components. Also water lines, outdoor faucet
08	Appliances	Freezer, refrigerator, stove, garbage disposal, dishwasher, and their components
09	Electrical and communication system elements	Electrical outlets and covers, circuit breakers, intercom systems, smoke detectors, thermostat, doorbell, master TV antenna
10	Enclosed elements and related items	Closet, cabinet, countertops, interior surface of rooms
11	Elements on exterior surfaces of buildings and in their immediate vicinity	Roof, siding and metal trim, steps, walks, fence, grass, door, door stoop, meter pit, outdoor storage shed
12	Miscellaneous	Door stop, mirror, soap dish, chimney, down spout, door knocker

architects at the National Bureau of Standards (NBS) before the study. Both general and specific housing elements codes were developed. However, only the general categories were used for coding of Work Order Forms.

One person did most of the actual coding: the person who developed the codes for dwelling unit space and housing problems. Two other coders, trained and supervised by this person, helped with the coding. Coding was based on a key word search of the work description. This search was generally sufficient to code housing problems and housing elements. Dwelling unit space generally was not recorded. When required information on a form was absent or insufficient, coders asked management to get the information.

Results

Five of the 11 general housing elements accounted for 70 percent of all reported problems (table 16). In rank order these are fixtures; plumbing, heating, and ventilating equipment (HVAC); door and window elements; major appliances; and floor and ceiling elements. This suggests that the dwelling unit spaces having fixtures, mechanical systems, and major appliances would be the places associated with work order complaints. In general, this was the case (table 16). In rank order, the dwelling unit spaces associated with complaints were kitchens and bathrooms, bedrooms, entries to dwelling units, and utility/mechanical equipment rooms.

Two housing problems predominate in table 16: works improperly and leaks (categories 01 and 10, respectively, in table 14). However, housing problems are better understood in relation to housing elements. Among the important associations of housing problems and housing elements are inoperative plumbing or mechanical systems, inoperative major appliances, inoperative hardware, leaks from the exterior of units, and cracked structures (table 17).

At each site the number of work orders per occupied dwelling varied. These differences appear to be consistent with the observation that repair problems remaining after housing has been judged complete and ready for occupancy (i.e., after what is called the final inspection) are usually reported during the first period of occupancy and during a warranty period. This is probably because occupants do not pay for repairs at these times.

SUGGESTIONS ABOUT CONTENT AND USE

Content and Format

1. A Work Order Form for describing in-use physical performance should include the following items:

    a. Sufficient identifying information for crossfile matching, if this is planned, and for collating different requests from the same dwelling unit obtained over time.

Table 16. Major dwelling unit spaces, housing elements, and housing problems in the work order study.

	Dwelling Unit Space[a]			Housing Elements[a]			Housing Problems[a]		
Rank	Code[b]	Category	%	Code[c]	Category	%	Coded	Category	%
1	07	Kitchen	22	06	Fixtures	20	01	Improperly working	27
2	09	Bathroom	20	07	Heating, ventilation, plumbing	15	10	Leaks	20
3	08	Bedroom	9	03	Doors, windows	14	04	Something missing	9
4	15	Utility/mechanical room	7	08	Major appliances	12	20	Dirty/stained	6
5	01	Entrance	7	04	Floor or ceiling	9	06	Loose	5
6	21	Exterior surface of building	6	09	Electrical, communications	7			
7	24	Yard	5	10	Enclosed elements	6			
8				02	Walls	6			
Categories									
Total Number			27[b]			11[c]			34[d]
Listed above			7			8			5

[a] Under each of the three major column headings, all categories are listed that were mentioned in 5 percent or more of all work orders concerned with that heading. Categories are ranked by percent. Percentages are rounded.

[b] From table 13

[c] From table 15

[d] From table 14

Table 17. Work order housing problems by housing elements.

Housing Elements (rank ordered)[a]	Reported Housing Problems (ranked within elements)[b]	Total[c]
Fixtures (20%)	Leaks (36%), inoperative (17%), missing (10%), stained (5%)	68%
Heating, ventilation, plumbing (15%)	Inoperative (54%), leaks (22%)	75%
Doors, windows (14%)	Inoperative (19%), missing (18%), leaks (14%)	51%
Major appliances (12%)	Inoperative (50%), leaks (10%), missing (8%), stained (5%)	73%
Floors, ceiling (9%)	Leaks (26%), stained (23%)	49%
Electrical, communication (7%)	Inoperative (40%), burned out (38%)	79%
Enclosed areas (6%)	Missing (27%), inoperative (14%), stained (11%)	52%
Walls (6%)	Damaged (42%), stained (17%), cracked (14%), leaks (13%)	86%
Hardware (6%)	Inoperative (50%), missing (13%)	64%
Exterior surface (4%)	Leaks (67%)	67%
Structures (1%)	Cracked (70%), stained (11%) leaks (8%)	89%

[a] The housing element categories are ranked by the percent of all housing elements that were mentioned. Percentages are rounded.

[b] Included are housing problems accounting for as few as 5 percent of all reported problems for a specific element. Percentages are rounded.

[c] This total is the sum of the reported housing problem percentages but is based on the precise percentages. Therefore, the totals are not always equal to the sum of the rounded values.

b. The date the request for repairs was made by the occupant or received by management, and the date the repair personnel completed the necessary repairs from management's perspective. Date of occupancy should be recorded if the researchers want to know how many requests are being made during a warranty period.

c. Dwelling unit space (i.e., where the problem is located) including, if appropriate, locations in public areas of building (e.g., lobbies).

d. Specific housing elements associated with the problem.

e. The three items of information listed below, preferably obtained from one expert.

Item	Example	Recorded Under
The reported problem	A wet spot	Complaint
Nature of the repair	Resealed a joint	Work description
Direct or immediate cause	Poorly installed joint	Cause

2. For recording the preceding items (c), (d), and (e), researchers could include on or with the forms the frequently reported coding categories in table 16. Codes make the forms easier and faster to complete and thus more acceptable. The forms should also advise the user to add other categories as needed.

3. For factory built housing, it would be useful to have information on antecedents (indirect causes) of problem. For example, was a joint loosened as a result of manufacturing practice, or stresses of transporting the system containing the joint from factory to the site, or onsite erection practices, or occupant misuse of a system and its components? Such information could be used to correct the problem, but it will be very hard to measure or obtain.

Use

Researchers should consider three aspects of using Work Order Forms: (1) supervision and training of form users, (2) data comparisons across data files, and (3) the use of the work order data to flag problems.

1. Form Users--To adequately train and motivate workers, investigators should carefully prepare and test forms and instructions for ease of use and clarity of meaning. Also, it would help to hire a field supervisor at each development. This person would be responsible for distributing and submitting the forms, and for ensuring that completed forms meet predetermined criteria. For example, the presence of a field supervisor should reduce the number of unanswered or inadequately answered work order items, a problem encountered during the Project Feedback Work Order Form survey.

The training of the field supervisor should include in-person or telephone instructions and discussions. This personal contact should help create a shared understanding of the study's goals and methods across developments.

2. Data Comparison--Work order data were collected through mid-December 1973. Core Questionnaire (CQ) interviews with OBT occupants took place during January and February 1974. To focus on recent, presumably better-remembered events, CQ interviewers asked about repairs during the previous month. Thus, respondents interviewed during January whose requests for repairs were recorded on Work Order Forms during the first 2 weeks in December provided an opportunity for crossfile comparisons. But this comparison was not made. Had the work order data collection continued through mid-February 1974, the Work Order Forms could have provided a validity check on CQ answers to factual questions on repairs, such as CQ item 179. Errors in recall could have been studied. For example, attitudes toward management might be associated with the direction of errors in recall.

3. Flagging Problems--The Work Order Form was developed to identify repair and maintenance problems, specifically their frequency of occurrence. Flagged repair problems proved to be valuable to management as a management and control mechanism. The information should also be useful in developing solutions that would prevent or reduce such problems in future housing, especially if causes of problems are traceable to their antecedents.

WORK ORDER INSTRUCTIONS

(These instructions have been edited for this report.)

1. Whenever a work order is received at the maintenance office, the person in charge of the office at the time should immediately fill in all information requested in the uppermost boxes on the Work Order Form:

   a. The work order number (work orders should be numbered serially--in the order received).
   b. His or her name as the recipient of the order.
   c. Date and time order is received.
   d. The name of the person requesting the work order. A work order may be requested by a member of the maintenance staff, by management, or by a resident. For example, work orders may result from a maintenance crew's routine inspections, whether periodic, seasonal, or when a resident vacates a dwelling unit. Usually, however, requests are made by a resident and mailed or phoned to the maintenance office.
   e. A description of the complaint/problem. The person requesting a work order may identify a problem, such as "My furnace is not working" or "My living room is cold," without understanding its cause. However, as many details as possible should be secured from the complainant and recorded in the "complaint/problem" space so that the maintenance crew can determine the urgency of the complaint and prepare for investigating it.
   f. The name of the resident and the address (include the apartment number, if relevant) of the dwelling unit where the work is to be done.
   g. Telephone number, and date and time authorized to inspect the premises.

   When the same repair or maintenance work is to be done at several dwellings, a separate Work Order Form may be filled out for each one, or all the names and addresses of dwelling unit residents may be listed in the space provided in a single form.

2. The center box on the Work Order Form is provided to state what work was done to solve the complaint/problem, when the work was started, and when the work was completed.

   a. The Work Order Form is printed in five copies. When the work order is activated, the white and green copies should be kept in the maintenance chronology file, but the three remaining copies should be taken to the work site by the maintenance crew chief or maintenance person and retained until the work has been completed. When all work is completed in response to each request, the two chronology file copies of the work order should be completely filled out to match the three "working" copies and all five copies subsequently filed as indicated at the bottom left-hand corner of the form.

b. For the maintenance crew to carry out the work necessary to solve any complaint/problem, all or most of the following steps will probably be required. Some of these steps, noted with an "X," require entries on the Work Order Form.

Inspect premises.

(X) Describe the cause of the complaint/problem as determined by the inspection. Enter in the "cause" space of the Work Order Form.

(X) Describe the work needed to remove the complaint or to solve the problem in terms of materials, labor, and services. Enter in "work description" space.

(X) Establish the priority or urgency of the work: low, moderate, high.

(X) Secure necessary approval to begin work and charge costs. NOTE: THIS IS CRITICAL.

When the work order is for maintenance or repairs, approval of the maintenance chief is required. For remodeling, approval of the project manager is required. For a warranty item, approval of the housing system producer is required. When the work order is due to the resident's negligence, or if it is otherwise caused by the resident and not due to normal wear and usage, the resident must pay the cost of the work and must approve the work before the work can begin.

(X) Negotiate with the resident the date and time for starting work.

Assign maintenance crew and its chief to larger projects; assign single maintenance person to smaller projects.

Reorder replacement parts if stock is depleted by performing a work order.

Order parts if not in stock.

Order outside labor and contract services as required.

(X) Reschedule work starting date and time if necessary (if parts must be ordered or if required labor or services are not immediately available) at the mutual convenience of the resident and maintenance crew or maintenance person.

(X) Complete work and cleanup. Indicate date and time work completed.

(X) Describe the work actually performed and redescribe the cause of the work if different from the earlier diagnosis. This will determine whether management, the housing system producer, or the

resident is to pay for the work performed. It may also suggest that similar dwelling units should be inspected for the same complaint/problem. Enter in "work description" and "cause" spaces.

(X) Secure maintenance chief's approval of work performed in "work completed" space on Work Order Form. The maintenance chief should carefully review the form for completeness and accuracy before filing.

3. The third and last section of the Work Order Form is provided for miscellaneous remarks.

Work Order Form

Edison Park

Apt. 915, 550 Techno Lane
Memphis, Tennessee 38105 (901) 523-8112

WORK ORDER NO.

REQUESTED BY:	RECEIVED BY:	TIME:	DATE:
RESIDENT'S NAME	ADDRESS:		
APARTMENT NO.	TELEPHONE:	PERMISSION TO ENTER	
		TIME(S):	DATE(S):
COMPLAINT/PROBLEM:			

WORK STARTED:	PRIORITY:	APPROVED BY:	TIME:	DATE:
WORK DESCRIPTION:				
CAUSE:				
WORK COMPLETED:		APPROVED BY:	TIME:	DATE:

CHARGE TO:	REMODELING ☐	MAINTENANCE ☐ REPAIR ☐	WARRANTY ☐	RESIDENT ☐

REMARKS:

Distribution: White: Management
Green: Dwelling Unit File
Pale Yellow: Resident
Pink: HUD S.T.R.
Dark Yellow: HUD Washington

USCOMM-NBS-DC

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Appendix 1: COMPARISON GROUP SELECTION VARIABLES AND THE PRINCIPLES USED TO SELECT THEM

PRINCIPLES OF SELECTION

In the selection of variables for field matching of conventional housing and sites with Operation Breakthrough (OBT) housing and sites, the following four principles or criteria were employed [Carson Consultants, Inc., 1973].

Relevance: The variable must be known to influence judgments about housing.

Feasibility: Field matching should be possible and economical.

Clarity: Measurement of the variable should be simple and direct.

Accuracy: The sources must be in a position to have accurate information.

There are three additional corollary principles:

Duplication: When one variable is known to correlate with another, the easier one to measure and to obtain should be selected.

Verification: Variables should have multiple sources for cross-checking.

Location: Whenever possible, variables should suggest obvious and logical sources and ways of reaching these sources in the field.

Some relationships between these principles and the eight selection variables follow.

PHYSICAL VARIABLES

Age of Dwelling Unit or Development

Relevance: Age is known to influence the evaluation of housing; however, the influence of age on evaluation can be curvilinear or idiosyncratic.

Feasibility: Matching for age should be relatively easy to get in the field.

Clarity: Age is no problem if researchers can find the original owner, developer, investor, or manager as sources of information. (If the development is 6 years old or less, researchers are more likely to find these sources.)

Accuracy: Age is easy to measure in years. For matching with OBT housing, the recommended cutoff for age of comparison housing is 6 years because OBT developments are relatively new. (Six years takes into account the time from start of the first unit to the occupancy of the last constructed unit.)

Duplication: Age correlates with social and economic variables; however, age should be used in matching.

Verification: There are multiple public records, including legally required ones; these take time and trouble to locate.

Location: Sources of information are available in the city assessor's office and from the housing development office.

Size of Dwelling

Relevance: Size is known to influence evaluations if the dwelling is too small. One study shows an ironic influence on evaluations when the unit was "too large" [Chombard de Lauwe, 1959]; families tended to treat the dwelling as too small.

Feasibility: It is easy to find a specific size (e.g., 3-bedroom units), but it is less easy to find a distribution of specific sizes at a particular development (e.g., a certain minimum number of 2-, 3-, and 4-bedroom units from which to sample).

Clarity: The best measure is number of bedrooms. This measure is frequently used by occupants in selecting a unit. Floor area may be estimated, but this is more difficult to obtain. Use the number of bedrooms to get units of approximately the same areas in conventional and OBT housing.

Accuracy: Most sources involved with housing should have information on the number of bedrooms and may even have information on the distribution of sizes, but the latter is less likely.

Duplication: Size, though it correlates with many variables, is the preferred variable.

Verification: Typically information on size can be found in several places; it is less probable that information on the distribution of sizes will be.

Location: Size of units can be obtained from newspaper advertisements, the housing developer, or the city assessor's office. It will be harder to get information on the distribution of sizes, however.

Housing Type and Mix (a planned unit development [PUD] criterion)

Relevance: This variable interacts with social variables to influence judgments.

Feasibility: This information may be easily obtained by observation in the field.

Clarity: It is easy to distinguish housing types: single family detached and attached, and multifamily low rise and high rise.

Accuracy: This presents no problem.

Duplication: Although type and mix correlate with economic, social, and locational variables, type and mix are preferred.

Location: Information about housing type and mix is available from the housing development plan. The plan can be obtained from either the housing developer or the city assessor's office or perhaps from the housing development office itself.

Amenities Onsite (a PUD criterion)

Relevance: This variable has been known to affect housing judgments as far back as the middle 1950's; if anything, this variable may be more relevant today because amenities now appear more often in the marketing of housing developments.

Feasibility: It is relatively easy to get this information; it is even used in advertising.

Clarity: Matching specific facilities like swimming pools, tennis courts, and clubhouses on a yes/no basis is easy; however, matching large open spaces is more difficult because it requires measurement as well as judgment. One measure of open space is based on comparing sizes on units per acre, with streets excluded.

Accuracy: For specific facilities, accuracy is high; for large open spaces, accuracy is good but not high unless maps are used.

Duplication: Although amenities correlate with economic variables, both amenities and economic variables should be used because the presence of subsidies can lower the correlation of these variables. (Subsidies can result in more amenities on otherwise lower-cost sites.)

Location: This information is available from newspaper advertisements, from site visits/direct observation, and from the housing developer's information brochures.

ECONOMIC VARIABLES

Type of Tenancy (Tenure)
(Rental, sole ownership, condominium ownership, cooperative ownership)

Relevance: Tenancy is related to maintenance of the dwelling unit, to community involvement, and to duration of residency; it also affects housing judgments.

Feasibility: It is easy to obtain matches for sole ownership and for rental status. It is less easy to find matches for cooperatives. Since a cooperative is like renting as long as new housing is involved, researchers may have to compare rental units with cooperatives to avoid dropping a group. Such matches represent a workable but not a completely successful solution for this selection criterion.

Clarity: Clarity is not a problem.

Accuracy: Accuracy is high.

Duplication: Tenancy correlates with economic variables like income; however, tenancy is easier information to get in the field.

Verification: This information can be obtained from several sources.

Location: This information is available from the housing developer, the city assessor's office, and the housing development office.

Price Range

Relevance: Price is known to affect judgments about housing, and it relates to judgments about the quality of the neighborhood.

Feasibility: Price is easy to obtain from management and marketing personnel.

Clarity: Getting information about range in dollars (highest and lowest price) provides no problem; the distribution (the proportion of units at each price) is a bit harder to get. For rentals, researchers should use dollars per month as a measure; for sales, use the present market price.

Accuracy: Information on the price of rental and cooperative housing tends to be accurate. Sales prices are somewhat less accurate if units are resales because there is an open market for price in resales.

Duplication: Price range correlates with income and certain social variables [Lansing, Marans, and Zehner, 1970], but subsidies and higher price ranges both reduce these correlations.

Location: Price range information is available from newspaper advertisements, the city assessor's office, the housing developer, or the housing development office.

SOCIODEMOGRAPHIC VARIABLES

Occupants' Stage in Life Cycle

Only three stages were employed: student (an undergraduate or in professional or graduate school), elderly (62 years old or older), and other (usually a non-student, nonelderly adult with a spouse and/or children).

Relevance: This variable is known to be significantly related to housing judgments [Pastalan and Carson, 1970].

Feasibility: Information about the stage in the life cycle is easier to get when very few stages are used.

Clarity: For field work, the simple trichotomy of "elderly/students/other" may be used with ease since these classes do not overlap in membership and the groups are usually found in different housing projects.

Duplication: This variable correlates with income and certain social variables [Lansing, Marans and Zehner, 1970], but housing subsidies and higher price ranges both reduce the correlations.

Location: This information is easy to get if the development has been restricted to a specific occupant group (e.g., the elderly, students). The data are available from the housing developer's office or from the development's sales/rental office.

Majority/Minority Mix

Relevance: Studies show this variable affects housing judgments. Since equal housing opportunities have not been high in the past, this mix is important.

Feasibility: It is easy to obtain information about whether there is or is not a mix. But it is more difficult to get a rough estimate of the proportion of minority group households, and it is even harder to get the exact percent of minority group households.

Clarity: Measurement is direct if "black" and "white" are the only categories used; too many classes reduce overall clarity.

Accuracy: It is relatively high, but the exact proportions of groups on site are rather hard to get. Matching need not be too precise if a "reasonable" mix is found at an OBT site.

Duplication: This criterion is correlated with many economic and social variables, but this variable should be included because it is easier to measure.

Location: Gross figures are available from the housing manager's office (e.g., there are or are not minority group members). Exact figures are easier to get at public housing developments.

Appendix 2: ADMINISTRATION, EDITING, AND CODING PROCEDURES FOR THE SURVEY INTERVIEWS OF BREAKTHROUGH AND COMPARISON GROUP HOUSING OCCUPANTS

The following procedures are based on O. J. Powers and M. A. Sohr, "Survey of Residents of Operation Breakthrough and Comparison Housing" (February 1974) and on Westat, Inc., "Breakthrough Survey Status Report" (December 1973). Information is from Powers and Sohr unless otherwise noted. Westat, Inc., called the "contractor" in the text that follows, conducted the components of the occupant survey described in this appendix.

DATA COLLECTION

Recruitment and Training

Field supervisors were selected for each of the Operation Breakthrough (OBT) site cities: Indianapolis, Kalamazoo, Macon, Memphis, Sacramento, St. Louis, Seattle (inner city and King County sites). There were seven field supervisors, with one supervisor responsible for the two OBT sites in the Seattle area. Each supervisor provided from 6 to 12 interviewers. A total of 57 interviewers was used for all sites.

Supervisor training began on December 28, 1973, with a briefing in Sacramento for representatives from St. Louis, Sacramento, and Seattle/King County. During these sessions survey materials were distributed including the Core Questionnaire (CQ), interviewer and supervisor instructions, time schedules, interview control forms, and address listings.

Briefings for the other field supervisors were held at the individual sites immediately preceding the interviewer training sessions during the first week of January 1974. The contractor was unable to hold a briefing session in Washington, D.C., for the other supervisors as originally planned. Instead, these field supervisors received and studied the training materials well in advance of the arrival of the training specialist and were well prepared to assist in the interviewer training sessions.

Interviewer training took place between January 2 and January 5, 1974, in all of the site cities except Memphis, where it had to be postponed until January 9 because of a severe ice storm. Each session used the following materials which were developed specifically for the study.

Interviewing Instruction Manual: This gave the study background, general rules of interviewing, general comments on the questionnaire, specific field procedures for the study, definitions of technical terms, and examples of control forms with an explanation of the use of each.

Question-By-Question Specifications: This was a "marked up" version of the CQ that expanded on printed instructions for handling specific questions and responses that could be given.

"Operation Breakthrough" and "Challenge" Brochures: These publications by the Department of Housing and Urban Development explained why the OBT program

was established and what it was trying to achieve. These brochures were helpful in explaining to the interviewers the importance of this study.

Interviewer training was carried out in three phases:

1. Home study in advance of the group session using the training materials.

2. Group training session lasting 1 full day, conducted by training specialists. At this session all training materials were explained and discussed. Mock interviews and role playing were used to ensure interviewer understanding of each question in the questionnaire. At the end of the session, an oral quiz was given by the training specialist to review key ideas and to pinpoint areas that might be unclear in both the questionnaire and field procedures. After this second phase of training, interviewers were given the contractor's identification badge, a letter of introduction from the National Bureau of Standards (NBS), and the survey materials needed for interviewing.

3. Close examination of each interviewer's first completed questionnaire. This was done by the field supervisor for the site on a one-to-one basis, and was intended to catch any problems the interviewer might be having and to identify areas for further study.

A second group training session occurred in Memphis on January 28, after a new comparison housing site (designated as group 2) was selected and additional interviewers were needed.

Verification

Interviews at each site were verified largely by telephone due to the short field period of this study and the high percentage of respondents with telephones. Some verification at each site, however, was made by postcard and by personal revisit. At least 10 percent of the interviews at each site were checked to make sure that the interview actually took place and that the completed questionnaire accurately reflected the respondent's answers. Researchers found no instance of an interviewer's inaccurate recording of responses.

In addition, field supervisors recontacted other respondents as needed for clearer and more complete responses to open-ended questions as well as for missing information.

Field Procedures

After the last phase of training, each interviewer was assigned addresses for about 1 week of interviewing. Further addresses were assigned as needed depending on the interviewer's speed and success in completing the previous week's list.

All interviews were face-to-face interviews; no telephone interviewing was permitted.

Interviews were attempted at all designated households in the OBT comparison group samples. Four in-person attempts--one initial and three callbacks--were required before a household either was designated as a noninterview (OBT site) or was replaced with a comparable unit (comparison housing site). Interviewers visited at different times on different days of the week and made at least one of these four visits on the weekend. Telephone calls to households were used for setting up appointments or after at least one in-person attempt to interview had been made.

Interviewers were instructed to screen a household for an eligible respondent. A member of a household was an eligible respondent if he or she was

1. The husband or the wife of the household, or

2. Another permanent member of the household at least 18 years old. (Permanent is defined as someone who normally lives at the dwelling unit during the year, even if he/she is away for temporary periods of time.)

Among eligible respondents, interviewers screened household members in the following order:

1. For family households

   1st choice--wife or female head of household
   2nd choice--husband or male head of household
   3rd choice--any other permanent member 18 years old or older

2. For nonfamily households

   1st choice--whoever had lived there the longest
   2nd choice--whoever had lived there next longest
   3rd choice--any other permanent member 18 years old or older

For comparison housing units, if an originally selected address did not yield an interview, the site's field supervisor made a substitution. A description of the substitution procedure follows [Westat, Inc., 1973].

Substitution Rules

1. Substitutions are to be made by the field supervisor.

2. Substitutions are allowed in comparison housing when an originally selected address does not yield an interview due to

   Refusal
   Occupant not home in four calls
   Vacant unit
   Other problems (language problem, unable to communicate coherently, etc.)

3. Substitutions will be made from the next available address within the same strata. ("Available" means not already sampled.) This will tend to provide a substitute that is similar to the household being replaced, due to proximity and similar housing type (i.e., a one-bedroom apartment for a one-bedroom apartment).

4. When a substitution is made, the supervisor will draw a red slash (/) through the noninterview address and draw a red box around the next address being substituted. For example, table 18 shows that at address P, apartment F was a noninterview. Therefore, the next available two-bedroom apartment on the list (apartment G) has been selected as shown by the |G|. If there had been no apartment G or H at address P, or if G and H had already been selected, interviewers would move to the building with two-bedroom apartments listed next on the page. This would take interviewers back to the top of the page, and they would select address C, apartment D as the substitute. Every effort will be made to select a substitute from the same strata as the unit being replaced. However, when this is not possible (e.g., if the six backup one-bedroom apartments in the example have already been used as substitutes), then substitution must be made from the next available address elsewhere in the list (e.g., a two-bedroom apartment instead of a one-bedroom).

Management and Control

The management of the field operations and the control of the production and questionnaire flow process were extremely important in this study because of the very tight time schedule.

The control procedures began with the receipt of the lists of addresses. Each address was given a unique four-digit number; the first digit indicating the site and the next three digits indicating the particular questionnaire and whether it was an interview with an OBT or a comparison household. This four-digit code served as the identification number for each dwelling unit's CQ.

A master control log for the home office was developed to display by site the code number for each household and the status of the questionnaire (i.e., complete, incomplete and reason why, substitution, receipt by home office, verification, status of editing and coding, shipment to NBS). In addition, separate control logs were made for each development. These were basically the same as the home office master control log but without information on coding and shipment to NBS.

The following control forms were also used in this study:

1. Interviewer Weekly Assignment and Status Report: Interviewers filled this out to report their weekly progress on each assigned dwelling. The form was turned in to the field supervisor along with completed interviews and Noninterview Report Forms.

2. Noninterview Report Form (NIR): The interviewer for any incomplete case filled out this form, showing the reasons for the noninterview, and gave

Table 18. A dwelling substitution for a comparison housing group.[a]

Location of Remaining Apartments (Nonelderly)		
Building Number [Address]	One-Bedroom Apartments	Two-Bedroom Apartments
A	F	
B	(E) (F) (G) (H)	
C		(A) (B) D (E) F G H
D	(A) (D) E F (G) (H)	
E	(E) (F) (H)	
F	E F G	
G	G H	
H	(E) (F) (G) (H)	
I		(A) C D (E) F (G) H
J	(E) (G)	
K	F	
L		(A) B (D) (E) F G H
M		(A) B (E) (F) G H
N		(A) B (C) (E) F G H
O		(A) B C D (E) F G (H)
P		(A) B C D E F (G) H

Total number of one-bedroom (BR) apartments: 26
Total number of two-bedroom (BR) apartments: 50

Suggested sample of apartments: total = 20 one-BR and 20 two-BR. Note that lower floor preference in one-BR is given to elderly, so sample is biased toward upper floor apartments here.

[a] The plan applies to comparison group 1. All identifying information has been deleted and is indicated by brackets.

it to the supervisor. The supervisor reviewed all the NIR's and then decided whether or not to reassign them. For substitutions, a copy of the NIR accompanied the questionnaires to the home office.

3. Substitution Form: This form was used if an interview could not be obtained from an originally selected comparison housing household. It showed the address of the originally selected household and the address of the substituted household.

Information from completed questionnaires and from the preceding forms provided the necessary input for control logs at each site as well as the master control log at the home office.

In addition, phone contact between the home office and the field offices was maintained almost daily during the field period to monitor the production schedule and resolve any technical or administrative problems.

Special Survey Conditions

The field work was completed at most sites on schedule and with no major problems or unusual field conditions. At two developments, however, there were some special conditions.

1. Kalamazoo: Although NBS wanted to double the proposed number of completed interviews at the comparison housing site, it was not attempted because the site management never gave permission to secure additional interviews there.

2. St. Louis: In St. Louis, management at the OBT site and at two comparison sites (designated groups 6 and 7), and bad weather adversely affected the production schedule. (The OBT site and comparison group 6 had the same management.)

   During the field work, a man attempting to rob a small store located off the main lobby in the group 7 building was shot and killed by a security guard. The field supervisor said that the incident was generally known by residents. Such an event may affect interview responses.

DATA REDUCTION

Editing Procedures

Field supervisors were responsible for editing every completed questionnaire received from the interviewers. They checked for missing information, inaccurately followed skip patterns, unwarranted multiple coding, and illegible answers. In addition, a scan-edit was performed on 100 percent of the questionnaires when they were received by the home office. This scan-edit took an average of 10 minutes per questionnaire. Those questionnaires with errors that the home office staff were unable to correct were returned to the field. The supervisor then recontacted the respondent to obtain the needed information.

Coding Procedures

Coding of the CQ was done on a flow basis as the questionnaires came into the home office. For the first 2 weeks coding was limited to questions with precoded answers. This was necessary because open-ended codes were being developed for six questions. After approval of the open-ended codes, however, complete coding of the questionnaires began.

Coders were thoroughly trained and tested before being allowed to code. The initial training session covered the questions with precoded answers. Trainers discussed each question with special emphasis placed on items involving skip patterns or special codes. Trainees then coded a test questionnaire to measure comprehension and competency. This test questionnaire was checked, and if problems were apparent, the trainee was individually retrained by the coding supervisor.

The second training session focused on the codes for 16 open-ended questions that NBS had developed before field work and that the contractor later revised. A thorough explanation of these codes was followed by trial coding and discussion of the results. Four coders were specially trained for the codes prepared by the contractor and based on respondents' answer to six open-ended questions. Special training was necessary due to the variety of possible answers and the need for standardization in coding these particular questions. (Codes for four of these questions appear in tables 6-9, in chapter 4.)

To minimize coder fatigue, supervisors varied coding tasks as much as possible. For example, persons responsible for questions with precoded alternatives in the morning were used to code open-ended questions or to verify already coded questionnaires in the afternoon. Statistics kept by the coding supervisor indicated that coder performance remained at a high level all day using this method. At least 25 percent of each coder's time was spent checking the work of other coders. In addition, a sample of each coder's work was checked by the coding supervisor to ensure the quality and accuracy of the coding.

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10. SUPPLEMENTARY NOTES

☐ Document describes a computer program; SF-185, FIPS Software Summary, is attached.

11. ABSTRACT (A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here)

The National Bureau of Standards (NBS) has prepared a report on the methodology of Project Feedback, the evaluation of Operation Breakthrough housing in use (a post-occupancy housing evaluation). The report introduces housing evaluations and encourages their use by providing both housing questionnaires and a nontechnical, practical discussion of research methods in general and of survey research in particular. To increase the sophistication of housing evaluation research designs, the report includes a tested approach for selecting control group respondents for housing evaluations. In addition, it summarizes results of NBS's housing evaluations, principally to illustrate ways of categorizing (coding) occupants' answers, but also to introduce these studies and their results. The case study approach is meant to encourage readers to build on NBS's experiences. This book is suitable for research and instructional purposes.

12. KEY WORDS (Six to twelve entries; alphabetical order; capitalize only proper names; and separate key words by semicolons)

Dwelling units (residential); housing; Operation Breakthrough; Project Feedback; post-occupancy housing evaluation; questionnaires; research methods; survey research; user needs.

13. AVAILABILITY

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